FIFTY-NINTH ANNUAL REPORT

of the BOARD OF TRUSTEES *of the*

OHIO STATE UNIVERSITY

TO THE GOVERNOR OF OHIO

FOR THE YEAR ENDING
JUNE 30, 1929

MCMXXIX
THE OHIO STATE UNIVERSITY
COLUMBUS, OHIO

THE OHIO STATE UNIVERSITY

HONORABLE MYERS Y. COOPER, *Governor of Ohio, Columbus, Ohio:*

MY DEAR SIR—I have the honor to present to you the annual report of the Board of Trustees of the Ohio State University for the year ending June 30, 1929, as required by law.

Yours very truly,

JULIUS F. STONE,
Chairman Board of Trustees.

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ANNUAL REPORT OF THE PRESIDENT

HONORABLE JULIUS F. STONE, *Chairman of the Board of Trustees, The Ohio State University:*

DEAR SIR—I have the honor to present through you to the Board of Trustees of The Ohio State University for transmission to the Governor of Ohio, as required by law, the Fifty-ninth Annual Report of The Ohio State University for the year ending June 30, 1929.

The extracts from the reports of the several colleges will appear hereinafter, as usual, and the opening pages will, as usual, contain a summary review of the progress of the University and the chief aims pursued in its activities.

LEGISLATURE OF 1929

It is a great pleasure to make report of the cordial attitude of the Governor of Ohio and the Legislature in the last session. Through the generosity of a good friend of the University, a number of members of the important committees of the Legislature, some members of the State Administration, the Board of Trustees of the University and some University officials made a tour of inspection of the Universities of Michigan and Illinois, to gather information about the progress of those institutions. The trip was very illuminating to everyone; the university buildings at both institutions were impressive, the officials were entirely cordial, and every effort was made to give complete information to the party from Ohio. Out of these observations grew concrete ideas about what the State of Ohio might appropriately be doing for The Ohio State University in addition to what the State has already been doing in this direction.

Likewise, the appropriate legislative committees and the Governor studied the needs of the University as these were presented; and the result of all the consideration was an appropriation surpassing by about one-third the support accorded by any previous Legislature in the way of personal service, maintenance, and buildings. Included in the maintenance was a very much enlarged provision for equipment of the laboratories in Mechanical Engineering, Agricultural Engineering, Industrial Engineering, and Physics, to enable these departments to replace some antiquated equipment and to buy some new pieces, all of which were badly needed to acquaint the students in the engineering departments especially with the kinds of apparatus which they would find in industry upon graduation.

The building needs of the University are still rather comprehensive, and a well-considered program and a statement of needs will soon be undertaken, so that in future sessions of the Legislature the program of University building requirements may be presented in a very concrete and complete fashion.

JUNIOR DEANS—FRESHMAN TEACHING

During the year the Junior Deans made a notable accomplishment; meeting weekly in conference with Professor W. W. Charters, Director of the Bureau of Educational Research, they gave to the whole matter of dealing with Freshman students a most careful study from many points of approach. They

not only considered the situation theoretically and on principle but also undertook experiments in this field of teaching.

With a keen realization that the problems of the Freshman begin back in the high school, and that before coming to college the high-school girl or boy should have intelligent consideration of the question whether he should go to college or not with the high-school principal and other high-school authorities, the Junior Council prepared a booklet entitled *A Suggested Program of Pre-College Guidance for High Schools*, and mailed this very generously over the State to the high-school principals and other school authorities. This booklet really constitutes a study of that question; and, although it is probable that at the time the Board may have been remembered with a copy, yet this seems the appropriate place in which to touch the various subjects which the Junior Council thought needed more careful attention in high-school circles.

They considered first the problem of the University with the large numbers in attendance today, the plan set up here for attempting to solve this problem, and then they called the attention of the high-school principal and teacher to the guidance which they should be fitted to give the students; then it is pointed out why Freshmen succeed or fail, what pre-college guidance can accomplish, use of intelligence tests as shown by data of their results collected over a period of years, the predictive value of the high-school record, the influence of age on academic success, whether boys or girls have a better opportunity to succeed and better chances, and the great importance of getting a good start; also the time to be devoted to study in the University, outside activities and their effect upon scholarship, the matter of self-support, and the possibilities of employment of both young men and young women, the agencies set up in the University for giving active assistance to these young people, with a suggestion that in each high school there be an assembly talk on college and career; finally a number of references in this field is appended. The booklet is fine evidence of the careful study given to this whole area by the Junior Deans, and is a concrete illustration of the effort to start the Freshman right.

There is every reason to believe that high-school authorities are entirely cordial and will do whatever is possible in creating right thinking in the high school and bringing to some students a realization that they can expect to accomplish little in the University, and to others the realization that they should attend in justice to themselves and for a complete development of their possibilities. It is believed that many young persons today who would greatly profit by a college education are not attending, while it is quite certain that a considerable number are in attendance who have very little ability to profit by such experience. The high schools can intelligently do something by way of encouragement in both these areas, and if the decision is made before college is reached, much tragedy can be avoided.

As a particular means of bringing the teachers and students together in the Freshman group, *interview sections* were established last year. The teacher in charge of a section held a friendly conference of fifteen or twenty minutes with each student in the group, talking about whatever might develop in the course of the conference. It was expected that out of it would come, at the least, some degree of acquaintance and understanding and a better approach on both sides, which could not but help the student in his work. At the end of the quarter, students themselves were asked for their unsigned

opinions as to the desirability of these interviews, and in an overwhelming number of cases they thought that the interview had been very useful and a pleasant method of becoming acquainted with the teacher, and also a means whereby the difficulties encountered by the student could be talked over informally with the teacher. These interview sections were carried on throughout the Winter and Spring quarters last year and are to be undertaken on a more extensive scale during the next Autumn Quarter; the entire feeling among teachers, students, and the Junior Deans is that this technique for personalizing the relationship between teacher and class is giving excellent results and is capable of further extended use and benefit.

This procedure made it necessary to think considerably about the nature of the interview between teacher and student and how it might well be carried on, the temperament of the teacher, the purposes which the teacher should keep well in mind, and the precautions which should be taken against making it seems dry and formal and technical. The whole purpose was to loosen up the relationship between the teacher and the student and make each feel more at home with the other. It is felt that very beneficial results can be obtained in the education of the Freshman in this way. In these five colleges in which the interview section work is carried on, the enthusiasm of the teachers who are participating is of the most stimulating kind, and it is believed that this procedure has a merited place in the educational process.

Of course, the purpose of the Junior Dean through the year was himself to come into contact with each of the Freshman students; *this is a large order*, and in some of the colleges it was not possible to arrange for conferences with every student, but the purpose was to reach as many as possible—and in several of the colleges it was possible to reach all. The function of the Junior Dean, therefore, was at least dual, in that he attempted personally to reach the Freshman students and also sought a conference as frequently as desirable and possible with the teachers of Freshmen. All of the time the Junior Dean was in contact with the Dean of the College and the College Executive Committee, so that all the procedures being pursued by the Junior Dean were well understood by the other authorities in the College, and they were having opportunities all the time to make suggestions and give counsel in the work. In these various ways cooperation among all the agencies in the College which could at all affect the student was carried on zealously and enthusiastically, and it is believed with very beneficent results both to the student engaged and to the teaching group.

As a kind of climax to the activities of the Junior Deans for the year, a conference was held outside of the University so that for several days in undisturbed session the Junior Deans and Professor Charters might give consideration to the work which they had been carrying on and to other methods of procedure, the whole purpose being to sit on the side lines for a few hours and look at the situation objectively, free from interruption.

This institution of Junior Deans is establishing itself with commendable activity and promptness; it is receiving the highest support of the Deans of these colleges; its functions, procedure, and accomplishments should have careful attention by the members of the University Faculty; its possibilities should be carefully sounded and intelligently encouraged and developed; and through it we should attempt to assure ourselves that the University is doing all that is possible for the progressive benefit of the Freshman students. Our present

University organization and methods are on trial, and we must answer not only the question whether a university can successfully care for 14,000 students annually, but also whether it can develop the procedures and the vitalizing personal contacts required to assure the intelligent development of 3,000 new students each year.

It is very clear that it has become a grave question, and one which must be answered not only to our satisfaction but also to the satisfaction of the people of the State and especially of the representatives of the people in the State Legislature. The big University supported by the State has been coming under criticism of considerable violence in the past few years, and here at The Ohio State University I think we are committed to the thought that mere size is not a deterrent, and that we can shape up our organization and procedure so as to give personal attention to the students who may come. *We must* do so if we are to justify the existence of the University on its present organization and scale, and we must be able to *demonstrate* that *we are doing so*. Therefore, the institution of the Junior Dean and the procedures which will be progressively worked out and applied in this area are of the most vital importance to every University teacher and student and parent.

THE GRADUATE SCHOOL

The Graduate School of the University, which has been growing rapidly especially in recent years, enrolled 1,285 students, or 36.8 per cent of the total registration for the Summer Quarter of 1928, and 1,113 students, or approximately 11 per cent of the University enrollment for the remainder of the last year.

The administration has been in the hands of the Dean and the Graduate Council, hitherto appointed without any well-defined plan of distribution for the term of three years, with the proviso that service rendered one ineligible for reappointment until a certain period had elapsed. During the year, however, the Graduate Council conducted an intensive study of its organization, its functions, its methods, and its successes, and recommended to the Faculty a grouping of the University departments with representation in the Graduate Council for each group. This proposal met the approval of the University Faculty and of the Board of Trustees, and membership in the Council today is based upon representation of related departments. This method of organization is expected to make material contribution to the character and quality of the Graduate Council.

The work in the Graduate School is well organized and articulated with the work of the undergraduate activities, and it presents a continual stimulus for graduate work and work in the fields of research.

Much is being done to encourage productive scholarship, and the University was able in the past year to provide a fund of $10,000 to be used by the Graduate Council in assisting professors who might be carrying on meritorious research projects, but who, being busy with a normal teaching load, needed assistance to carry on research simultaneously. Such assistance was rendered in many cases, and the distribution of the funds was given publicity, with a very stimulating effect.

The practice has been adopted of publishing abstracts of theses of candidates for the Master's degree; this gives substantial recognition to the students' accomplishments. Hitherto, the only notice of the activities of the candidate

for the Master's degree was found in the publication in the commencement program of his thesis subject and his field of specialization. Two such volumes of abstracts have appeared, and the Graduate Council is quite convinced of the stimulating effects of printing these abstracts.

Very properly the Graduate Council is vitally interested in the teaching staff, especially the fraction of it which devotes its efforts principally to the areas in which graduate study may take place; its language in this connection should be quoted:

The Graduate Council urges, therefore, that great stress should be placed upon the selection of new members of the instructional staff. It believes that there is no emergency so great as to warrant the addition to our permanent staff of anyone until the proper authorities, after a thorough investigation, are assured that the person selected will add to the scholarly character of the staff. As the guiding principle, the Council presents for adoption the following tentative conclusions, presented by the Committee, etc.:

We believe that the responsibility of building up departmental programs and adequate personnel for the instruction of graduate students and the supervision of research lies with individual departments and the Dean of the Graduate School. We are here clearly distinguishing between college teaching and university instruction. The former concerns the department and the Deans of one or more colleges which the department may happen to serve. The latter involves the purposes and aspirations of the department to survey and contribute new points of view and principles to its field of interest, to provide facilities for the carrying out of research projects, and to guide and train students in the methods of research. Under our present organization this is clearly a function of the department that is related directly to the Graduate School. If we agree to this relationship, then it follows that the appointment and promotion of instructors and professors giving graduate courses and the providing of suitable conditions for these activities, is in a large measure a responsibility of the Dean of the Graduate School. Since most of such instructors are also college teachers, appointments and promotions should be made on the joint recommendation of the Graduate Dean and the Deans of the Colleges concerned.

It will be interesting here also to note the subjects submitted by the Graduate Council to groups of members of the University staff for study and reports:

1. The selection of the instructional staff of the Graduate School. Edgar N. Transeau, Chairman, George F. Arps, and Alpheus W. Smith.

2. The stimulation of the spirit of scholarly work. Marbury B. Ogle, Chairman, Carl Wittke, and Albert B. Wolfe.

3. The tools necessary for effective research. Earl N. Manchester, Chairman, George R. Havens, and Edward Mack, Jr.

4. Methods of administration. Spurgeon Bell, Chairman, Henry H. Goddard, and W. J. Shepard.

5. How can the quality of graduate students be improved? Homer C. Hockett, Chairman, William E. Henderson, and B. L. Stradley.

6. How can the quality of graduate courses be improved? Raymond C. Osburn, Chairman, George H. Sabine, and Frederick E. Lumley.

7. Requirements for the graduate degrees. James R. Withrow, Chairman, Henry Blumberg, and James E. Hagerty.

8. Graduate student life. Henry R. Spencer, Chairman, Jay B. Park, and M. Blakemore Evans.

9. The evaluation of research work. W. W. Charters, Chairman, Firman E. Bear, and William L. Evans.

10. Research in the professional fields, especially in Dentistry, Law, and Medicine. Herschel W. Arant, Francis L. Landacre, and Harry M. Semans.

For some years the Legislature has made special appropriations for the use of the Graduate Council, in providing special lectures, printing, equipment, and assistance of multiform kinds to individuals and departments carrying on research work; this fund has been applied to its various purposes with great deliberation and discrimination and has been an important factor in the growth of the School. The Graduate School also has at its disposal a large group of fellowships and scholarships awarded annually to carefully selected persons. The policy of the State is to support only one Graduate School and thereby render a fine type of service to many of the other colleges of Ohio.

In the eighteen years since the organization of the Graduate School, its growth has been phenomenal, and in this entire period of time it has been progressing under the constructive and stimulating leadership of Professor William McPherson, who has been its one and only Dean; its needs, its purposes, its facilities, its expanding vision and accomplishment, and the constructive place which it may occupy in the educational system of the State have been constantly in his mind and he has been urging and promoting them through the years.

HONORARY DEGREES

University sentiment has not for a long period of time favored the conferring of honorary degrees; the last one was conferred in 1896, and previously a few such degrees had from time to time been conferred upon citizens of Ohio interested in educational work. Periodically interest was manifested in this subject in the University Faculty, the Board of Trustees, and among persons outside of the University, and on several occasions discussion went on in the University Faculty in reference to the policy, but the sentiment of the Faculty has been uniformly registered against it. Finally, however, the Alumni became greatly interested in the subject, and their committee appeared before the Board of Trustees within the year and presented a recommendation that the University again take up the practice of conferring honorary degrees.

As a matter of policy it was always felt that recommendations for honorary as well as earned degrees should come from the University Faculty; in view of the interest being manifested, the Faculty again took up the discussion and recommended to the Board of Trustees that the practice of conferring honorary degrees be resumed under certain limitations. They also recommended the organization within the University Faculty of a committee which should receive nominations of persons for the honorary degree and make final recommendations to the University Faculty for its action. This plan met the approval of the Board of Trustees, and the policy of conferring honorary degrees was again taken up. The general feeling was that the University would honor and dignify itself and would present a stimulus to the graduating class by conservatively following this policy, and this general opinion received considerable support from the fact that the great majority of American institutions of higher education confer such degrees.

Because of the widespread interest in the matter, it is thought appropriate here to include the names of the persons upon whom the University conferred honorary degrees at the last June commencement. They are: President Emeritus W. O. Thompson, for twenty-six years President of the University and widely known also for his activities in the fields of religion, social welfare, and civic well-being; Professor Arthur H. Compton of the Depart-

ment of Physics of the University of Chicago, well known for his illuminating studies in that field; Charles F. Kettering, President of the General Motors Research Corporation, and a graduate of the University in the class of 1904, well known for his research accomplishments relating to the automotive industry, for his interest in education, and for his constructive thinking also in the field of general engineering.

In this connection it should also be reported that the Sullivant Medal was awarded at the last commencement to Charles F. Kettering. This medal is provided under an instrument of gift by Thomas Corwin Mendenhall, which stipulates that the medal may be awarded at intervals of five years to graduates of this University or to members of the Faculty, under certain conditions of achievement there noted. The only previous award was made to the late Benjamin G. Lamme, a graduate of 1888.

NICHOLS MEDAL IN CHEMISTRY

Professor William Lloyd Evans has for some years devoted much study to carbohydrates, and alone as well as in conjunction with graduate students has contributed to the literature of this subject many papers setting forth his discoveries in this field. As a result of these studies, the American Chemical Association awarded to him the Nichols Medal for proficiency in the field of Chemical Research. This is one of the coveted awards for merit in this line of activity and came as a distinct tribute to the ability shown by Professor Evans and as a distinct honor to the University. An appropriate minute of the Board of Trustees expressed gratification and appreciation to Professor Evans for his achievement and notable recognition.

ALUMNI ENDOWMENT FUND

During the past two years the Ohio State University Association, under the presidency of Mr. James F. Lincoln, manifested a great interest in possible activities of the Alumni for the advancement of the University. This may assume the form of an endowment, or a concrete gift, or some other form, and the particular purpose or purposes for which funds might be accumulated at once becomes the issue. This question received thorough discussion during the year, and a joint committee created by the Board of Trustees and the Association carefully considered the form which Alumni interest might profitably assume. An Alumni Endowment Fund for Research was decided upon by this committee and was approved by the annual meeting of the Association. An Alumni committee on ways and means has been set up, consisting of James F. Lincoln, Francis Carter Wood, Charles P. Cooper, Charles F. Kettering, L. W. Chubb, and H. S. Warwick, President of the Association. An executive head for this committee is now being sought to bring the proposal vigorously to the attention of Alumni everywhere.

SPECIAL ENDOWMENTS

Through the years a considerable number of endowment funds for designated purposes has been received by the University from many sources, and these are carried as Schedule H in the Annual Financial Report of the University. This list is now increased by the following gifts:

The Payne Study and Experiment Fund is contributing to the expense of studies in relation to the content of motion pictures and motion-picture attendance, and motion pictures as related to the health of children.

Marietta Comly and Sarah J. Coleman made a gift to be added to the special endowment fund entitled The Nathaniel T. Coleman Library of Medical Literature, and later increased the gift considerably.

Later, by a substantial gift, Marietta Comly established The Sarah J. Comly Coleman Student Aid Fund.

The Ohio State Alumnae of Springfield, Ohio, made a contribution to be used for loans to woman students; the same generosity has been evidenced by the Alumnae of Dayton, Pittsburgh, New York, and Detroit.

For several years the first-year class in General Chemistry has made contributions for the purchase of memorial tablets in memory of the great chemists; these tablets are being placed in an appropriate room of the new Chemistry Building to serve as an inspiration to future students.

Some of the gifts to the University have assumed the form of Fellowships, namely, an Industrial Fellowship furnished by the Aluminum Company of America; another by the Calcium Chloride Cooperative Publicity Committee; another by the Barrett Company in the Department of Soils for experimental work in the use of nitrogen fertilizer applied on pasture lands for dairy cattle; another by the Synthetic Nitrogen Products to be used for a variety of experiments in the Department of Soils; a Crop Protection Institute Fellowship for the study of insecticides; an Ohio Salt Company Fellowship in Chemical Engineering; another by the United Presbyterian Board of Education; the continuation of the American Institute of Steel Construction Fellowship was made during the year; and a Fellowship in the field of Analytical Chemistry by the J. T. Baker Chemical Company.

Some scholarships were also created during the year, namely, by the Dayton Alumnae Association; by the Presser Foundation, to be awarded to a student in the Department of Music; another by the Women's Relief Corps, for the benefit of the son of a deceased soldier or sailor, who should obtain his primary and secondary education at the Soldiers' and Sailors' Orphans' Home in Xenia, Ohio; twenty-four first-year scholarships, created by the Board of Trustees, to be awarded to Seniors in Ohio High Schools upon the recommendation of the Director of the State Department of Education, and six second-year scholarships for the same purpose. These students are selected by competitive scholarship examinations now being submitted to the Senior Classes in all the high schools of the State, and is therefore part of a comprehensive movement for the improvement of scholarship in the schools which are supported by the public.

In this connection it is also of interest that during the year the College of Engineering formulated regulations governing the award from year to year of the Lamme Scholarship, provided by the will of the late Benjamin Lamme.

FACULTY MEMBERS WITHDRAWN

During the year Professor Alfred Hottes, who for some years has been in charge of floriculture in the Department of Horticulture and Forestry, resigned to accept service with a firm interested in the publication of an agricultural periodical in the Middle West. Professor Hottes was a capable public speaker and teacher and did much for the development of the floriculture interests in the University and throughout the State; he was always welcome at meetings of persons interested in floriculture, was a regular con-

tributor to the periodical literature on the subject, and has made a place for himself in the floricultural industry of the State. In this case, as in others occasionally, the University is unable to make a financial offer which will offset the proposals coming from commercial enterprises to members of the teaching force here who are peculiarly equipped, and in such case there is nothing the University can do but express its acknowledgment for past services and congratulations for the opportunity which has come to one of its staff members and wish him Godspeed in the work ahead.

Late in the year Professor Francis W. Coker, for many years in the Department of Political Science, received a call to Yale University to take up work principally in the graduate field in Political Science in that institution. This presented an unusual opportunity which came as a fruition of his long, active, and well-known work here both as teacher and writer. In this case this University could offer no inducements which could match the opportunities presented to an outstanding scholar in one of our oldest universities. In his many years of service here, Professor Coker took a large interest in educational affairs generally, was active on many important University Faculty committees, and brought to bear on every subject a wholesome and logical view and reasonableness that were very appealing and influential. His thought was always characterized by deliberation and fearlessness, and his students and his colleagues found inspiration in his teaching and his studies.

During the year also Doctor John W. Wilce resigned from the position of football coach, which he had held continuously since the year 1913. In that period he developed some notable football teams, came into contact with hundreds of students both on the football field and in the classroom, and developed into a great power for clean athletics, clean living, social thinking, and the vigorous, purposeful life. He commanded practically the universal respect and admiration of the Faculty and the University Administration, and was always received with the greatest cordiality and enthusiasm by the Alumni whenever upon occasion he appeared among them. He is now to enter upon private medical practice, to some extent, and will at the same time remain in the service of the University in the teaching of Physical Education and in the activities of the Student Medical Service. He is a fine type of University man, and it is hoped that his engagements will permit him increasingly to devote himself to the University's work in the fields of teaching and student health.

GIBRALTAR ISLAND AND THE LAKE LABORATORY

The generous gift to the University made by Mr. Julius F. Stone, a member of the Board of Trustees, on June 19, 1925, of Gibraltar Island as a permanent home for the Lake Laboratory was acclaimed by the University at the time, and, in the years since, has been cordially recognized and supported by the State Legislature. Out of legislative funds a Lake Laboratory was completed during the past year, a fine and serviceable structure overlooking the bay in the direction of the town Put-in-Bay, and appropriate dedicatory exercises were held on June 22, 1929. The proceedings on this occasion have been done into book form and widely distributed; the occasion was made memorable by the presence and participation of the Governor of Ohio, members of his Administrative Staff, visiting scientists from many parts of the United States, members of the University Board of Trustees, and mem-

bers of the University Administration and Faculty. The dedicatory exercises took place on a perfect day, and in a setting of natural land-and-water beauty which left nothing to the imagination.

As said by all participants on that occasion, the opportunity presented to the University and the State is a remarkable one, and the future importance of this Lake Laboratory will depend solely upon the wisdom with which it is managed and with which its activities are progressively charted. The University should find in it a great challenge and should develop the opportunity of contributing to the study of fresh-water economic-biological problems in the way that this has been so strikingly done for marine problems for many years by the Laboratory at Woods Hole. This should become the Woods Hole of the Great Lakes!

STUDENT MEDICAL SERVICE

The Student Medical Service has been of the greatest usefulness in conserving and promoting student health, and during the year it was found necessary to establish it on a more secure basis. The staff was completely reorganized under the supervision of the Dean of the College of Medicine, with Colonel James S. Wilson, M.D., Director, and two permanent members of the staff and three part-time members; the latter are persons who are already in the University service in the Department of Physical Education. To support this new organization and make more readily available the medical service for the benefit of the students, a small fee of $1.00 per quarter was assessed against all students, and this source of revenue supplemented by University funds has placed the medical service on a sound basis and has brought it into effective relationship with the University Hospital.

This service must continue to expand its activities; it is inadequately housed in Hayes Hall, and is calling for better and more commodious quarters. From day to day it is giving clear evidence of its usefulness and of its importance in the lives of the students and faculty.

ADMINISTRATIVE SERVICES RECOGNIZED

Special acknowledgment is hereby made of the devoted and constructive services of Professor Alonzo H. Tuttle as Acting Dean of the College of Law in the long interval between the death of Dean John J. Adams and the election of Dean H. W. Arant. The position of Acting Dean is a difficult one, and Professor Tuttle filled this rôle in a manner that was satisfactory to his colleagues and which conserved and promoted the best interests of the College of Law.

Acknowledgment is made also of the devoted services of Professor Wilbur H. Siebert, who for a considerable period of time after the resignation of Dean William E. Henderson filled the position of Acting Dean of the College of Liberal Arts. He gave to the College a very vigorous administration at a great sacrifice so far as concerned his professional and research activities. For many years Professor Siebert has been actively engaged in historical research and writings, but, notwithstanding, he yielded to the call of the University to this field of administrative service, and here he steadily conserved and promoted the interests of the College until the administration was passed over to Dean Walter J. Shepard.

Also recognition is accorded to Professor William McPherson, who resigned the chairmanship of the Department of Chemistry after more than

thirty years of service. Almost all of the growth which characterizes it as an outstanding Department of Chemistry in this country has been made under his administration; he has brought together in the Department a personnel of unusual quality and activity as students, investigators, and teachers. He will continue as Dean of the Graduate School, an area of activity which has developed steadily and in recent years rapidly, and has become a branch of University service which is very exacting and which in itself is large enough to absorb the energy and constructive talents of one person. Professor William Lloyd Evans, a graduate of this University in 1891 and a Professor in the Department of Chemistry for twenty-five years, has succeeded as Chairman of the Department and will carry on the work there with the progressive and constructive spirit which has characterized its activities for many years.

Also to Professor M. B. Hammond due recognition is given, who after many years of service has resigned the Chairmanship of the Department of Economics. He developed the work in that area to a point of great effectiveness, and gathered about him a personnel skilled in investigating, writing, and teaching. Professor Hammond prefers now to turn his energies from the field of administration entirely into the fields of research, writing, and teaching. Release from the burdens of administration will bring to him, just as it has to Professor McPherson, Professor Siebert, and Professor Tuttle, enlarged opportunity for the scholastic activities.

Such members of the University Faculty, through the years, build themselves into the institution; and it may be truthfully said that what The Ohio State University is today is the result of the fine thought, energy, and talent expended by the members of its teaching staff in furtherance of the great purpose of developing here a University which will fill, particularly in the life of the State and incidentally in the life of the Nation outside of Ohio, a constantly widening place in the social, industrial, and moral conceptions and activities of the times.

NEW ADMINISTRATIVE OFFICERS

At the opening of the Autumn Quarter, Professor Walter J. Shepard came to the University from the Brookings Institute of Washington, D. C., as the Dean of the College of Arts and Sciences. Dean Shepard had previously been a Professor in the University in the Department of Political Science from 1909 to 1911 and again from 1921 to 1923.

At the opening of the Autumn Quarter also, Dean Herschel W. Arant of the College of Law of the University of Kansas came as the Dean of the College of Law here. Dean Arant had been at the University of Kansas six years, previously had been at Yale University, and prior to that had been teaching at Emory University and practicing law in the city of Atlanta.

During the last summer Mr. Earl N. Manchester entered upon his duties as University Librarian. He came here from the University of Kansas, where he had been the University Librarian for some years, having previously been in library service at the University of Chicago and Brown University.

These three persons came to fill very important University positions and have entered upon their work with great zeal and the cordial approval of the University community.

EDUCATIONAL MEETINGS

During the year some very important educational meetings were held at the University. There was the usual meeting of the Ohio Educational Con-

ference held early in April, which is invited to the campus annually and holds its meetings under the auspices of the College of Education. The program of exercises of the Conference is prepared by a committee in that College. The whole purpose is educative and constructive, and there is a constantly growing attendance of both public-school administrators and teachers and college teachers, principally from the State of Ohio.

The American Chemical Society held its annual meeting in April in Columbus, many of the sessions being held at the University in the new Chemistry Building. It was a great satisfaction to the University community to entertain this organization, which brings together annually many of the foremost chemists of the world.

The Society for the Promotion of Engineering Education also held its annual meeting at the University in April; this is composed of professors engaged in the teaching of engineering all over the United States and is a very active group deeply interested in the activity which its title indicates. At this meeting at the University, the final report of a cooperative committee from this Society and outside engineers, which has for several years been engaged in the study of engineering education, was considered.

Many other educational groups from time to time come to the University for their meetings, indeed are always welcome, and invariably have a stimulating effect here and there throughout the University organization. No method has yet been found superior to the intercommunication of ideas and programs relating to the University activities, and it is a kind of mutual obligation universities have to encourage meetings on their own grounds, and also, as far as possible, to enable members of their own Faculty to be in attendance upon such meetings. Such meetings are a distinct source of education to men and women teaching in universities or engaged in administrative duties.

WOMEN'S DORMITORIES

The University during the year gave new evidence of its solicitude for the comfort, safety, and satisfaction of the young women students of the University by leasing the dormitory known as Neil Hall for their uses. This will more than double the dormitory facilities for women; and although such facilities will still be very inadequate, yet the improvement is obvious. The policy of housing freshman women in the three dormitories or residence halls of the University has been adopted and will be put into effect the coming year; the young women in the dormitories will be brought into relation with the activities and plans of the Dean of Women, with the purpose of acquainting them with the best University life and enabling them to make an intelligent ordering of their activities both educational and collateral. This will serve as an introductory period in which some of their uncertainties may be corrected and resolved, their grasp on the purposes of their life in the University may be strengthened, and they may become progressively more able to make headway as University students. The supervision of these three halls is in charge of E. E. Prout, who has been very capably looking after the interests of the young women in Mack and Oxley Halls for some years. Mrs. Prout is very actively cooperating with the Dean of Women in the experiment now being carried forward in making these halls living places for freshman girls only, so far as needed for that purpose. This experiment is being carefully carried forward, and in a few years we shall have some experience upon

which to base further thought about what should be done by and for the young women students in this institution.

COOPERATION—UNIVERSITY AND AGRICULTURAL EXPERIMENT STATION

In furtherance of the plan for cooperation between the Agricultural Experiment Station and the University, arrangements have been made to relate the two institutions in Horticulture and Soils. Professor Joseph P. Gourley, the Chief in Horticulture at the Station, has been made Chairman of the Department of Horticulture, and several members of the staff at the Station have been made Professors in the Department, and in this manner both institutions receive the benefits of the activity carried forward in each.

Likewise R. M. Salter, the Chief in Agronomy at the Station, will be at the head of the Department of Soils. Such cooperative arrangements affect the College of Agriculture in some of the other departments also, notably Rural Economics.

NEW BUILDINGS

During the year the Chemistry Building was completed as a structure and much progress was made in placing equipment. The Department of Chemistry has been occupying the building and is rapidly making adjustments and as speedily as possible will have the entire building under complete use. This large department is, at least for the present, adequately housed; and when all equipment is placed all the activities will be carried on in a very satisfactory manner and degree.

The old Chemistry Building has been made over during the year and a large addition has been built thereto, making a quadrangular structure which will be devoted entirely to the housing of the languages. The expectation is that it will be occupied at the opening of the Autumn Quarter, 1929. When completely equipped and occupied, this building will furnish very satisfactory facilities for the language groups.

NECROLOGY

The University Faculty and the community suffered a great loss in the death of Professor John Adams Bownocker, teacher in the Department of Geology since 1895 and Chairman of the Department from 1917 to his death in 1928. The Board of Trustees expressed its appreciation of the life and services and worth of Professor Bownocker in the following minute:

The Board of Trustees learns with great sorrow of the death of Professor John A. Bownocker. He was a familiar figure on the University campus for thirty-three years and was recognized for his devoted interest to the life of the University and its educational and social activities, for his belief in the fundamental place of the University in the State and the life of the people, for his active support at all times of the proper standards of education and for his well-considered, balanced judgment concerning all matters relating to the progress of the institution. He will always be remembered as a person not only of stalwart figure but strong resolution and fine accomplishment. His characteristics were a strong blending of the sturdy, progressive, and energetic, with the refined, forming a striking character respected by all; his influence in the great development of the University in the last one-third of a century, cannot be precisely measured, but all who know him will agree that it was very great and always sane and reasonable.

The Board of Trustees desires here to make recognition of its great grief, of its estimate of his fine character, his good fellowship, his appreciation of the better things of life, and his large place in the University accomplishment.

Professor Alfred Dodge Cole, for twenty years the Chairman of the Department of Physics, died December 1, 1928. He was a graduate of Brown University and also carried on his studies in Physics at Johns Hopkins, Harvard, Cornell, and Chicago Universities, and later at the University of Berlin. His teaching experience was at Denison University, Vassar College, and The Ohio State University; here he became Chairman of the Department of Physics in 1908 and continued actively in that capacity until his death on December 1, 1928. He was very active in prosecuting study in the field of Physics, keeping pace with the advances being made from the ideas which prevailed when he was a college and young graduate student to the most advanced ideas of recent times; he was greatly interested in the various societies and associations having for their chief purpose the exchange of views and the advancement of knowledge concerning Physics.

In this University he was not only vitally interested in his own department but served as Secretary of the College of Arts and Sciences, was a member of the Graduate Council and also a member of the Advisory Council of the Engineering Experiment Station. His administrative activities, therefore, took him into these various fields of the University enterprise and he was very faithful and efficient in them all. He believed in devoted study on the part of the student, he was a large factor in the development of the University and the maintaining of high ideals, and at the same time had a large appreciation for the religious, moral, and social phases of the student's life and University experience. His influence was always in the direction of right, and his long period of effective service properly entitles him to be classed among the University builders.

It is deemed appropriate at this point to add enrollment figures for the year, as given in the tables on the following pages:

ENROLLMENT OF STUDENTS IN THE YEAR 1928-1929

1. Grand Total

	Men	Women	Total
Current Total	8,042	3,462	11,504
Summer Quarter	1,847	1,614	3,461
Lake Laboratory	24	19	43
Total	9,913	5,095	15,008
Duplicates in Summer Quarter	935	527	1,462
Total	8,978	4,568	13,546
Winter Courses in Agriculture (Poultry and Dairying)	106	5	111
Grand Net Total	9,084	4,573	13,657
Commerce Extension Courses	580	166	746
Grand Year Total	9,664	4,739	14,403

2. By Quarters—Men and Women

College	Autumn, Winter, Spring Quarters			Summer Quarter Duplicates		
	Men	Women	Total	Men	Women	Total
Agriculture	505	358	863	32	56	88
Applied Optics	31	1	32	1	.....	1
Arts	1,792	686	2,478	147	81	228
Arts-Education	27	82	109	2	15	17
Commerce and Administration	1,668	408	2,076	100	29	129
Dentistry	245	1	246	2	.....	2
Education	505	1,478	1,983	86	210	296
Engineering	1,618	9	1,627	143	.....	143
Law	282	14	296	3	.....	3
Medicine	307	16	323	3	2	5
Nursing	.....	41	41	.....	.....	.....
Pharmacy	181	15	196	19	.....	19
Veterinary Medicine	121	.....	121	10	.....	10
Graduate School	760	353	1,113	299	99	398
Current Total	8,042	3,462	11,504	847	492	1,339
Number that changed Colleges	.....	.....	.....	78	30	108
				925	522	1,447
Lake Laboratory	.....	.....	.....	10	5	15
Total	8,042	3,462	11,504	935	527	1,462

3. By Colleges and Quarters

College	Summer	Autumn	Winter	Spring	Total	Grand Totals
Agriculture	152	793	757	642	927	.....
Winter Courses	...	...	111	...	111	.....
						1,038
Applied Optics	1	30	27	25	32	.....
						32
Commerce and Administration	221	1,827	1,672	1,556	2,168	.....
Commerce Extension	...	524	673	321	746	.....
						2,914
Dentistry	2	245	239	233	246	
						246
Education	1,126	1,716	1,594	1,560	2,813	
						2,813
Engineering	163	1,548	1,472	1,331	1,647	
						1,647
Law	...	297	278	261	293	
						293
Liberal Arts	430	2,429	2,246	2,015	2,680	
						2,680
Liberal Arts-Education	36	107	99	98	128	
						128
Medicine	12	330	310	286	330	
						330
Nursing	...	31	28	34	41	
						41
Pharmacy	23	188	180	158	200	
						200
Veterinary Medicine	10	110	116	111	121	
						121
Graduate School	1,292	844	778	823	2,000	
						2,000
Lake Laboratory	43	...	...	...	43	
						43
Totals	3,511	11,019	10,580	9,454	...	14,526
Less Duplicates	7	83	74	67	123	123
Grand Totals	3,504	10,936	10,506	9,387	...	14,403

George W. Rightmire

President

GRADUATE SCHOOL

Dean, WILLIAM MCPHERSON

THE GRADUATE STUDENT BODY—ITS GROWTH AND PERSONNEL

Attendance in the Graduate School during the academic year 1928-29 passed the 2,000 mark. There were registered for one or more quarters 2,070 students, an increase of 288 over the previous year. During the year, 67 candidates received the degree of Doctor of Philosophy, as compared with 44 in the preceding year, while 322 received the Master's degree, as compard with 258 for the previous year. The total number of advanced degrees conferred during the academic year was 389, and the fact is significant that none of the undergraduate colleges conferred so large a number—the College of Liberal Arts coming next with a total of 358.

It is important to know just what constituency the Graduate School is serving. The graduates represent 226 colleges. Moreover, 79 per cent of the registrants are graduates of Ohio colleges. Naturally our own University is in the lead, furnishing 720, or more than one-third of the total number of registrants. The list of colleges represented by 40 or more of its graduates is as follows:

Ohio University	107
Ohio Wesleyan University	103
Ohio Northern University	61
Otterbein College	57
Miami University	54
Muskingum College	54
Wittenberg College	53
College of Wooster	44
Denison University	40

With two exceptions (John Carroll University and St. John's University), all the colleges belonging to the Ohio College Association are represented in our Graduate School.

The following professional groups are represented among our graduate students by the numbers indicated:

Teachers in elementary and secondary schools outside of Columbus	464
Members of the instructional staff of the Ohio State University (graduate assistants and part-time assistants)	404
Teachers in the Columbus public schools	191
Superintendents of schools	124
Principals of elementary and secondary schools	124
Members of the instructional staffs of Ohio Colleges	119
Members of the instructional staffs of colleges outside of Ohio	56
Ministers	12

THE STUDY OF GRADUATE SCHOOL PROBLEMS

The President's annual address to the University Faculty for the year 1928-29 had as its central theme "The Graduate School of the University." This address was referred by the Faculty to the Graduate Council with instructions to report its recommendations. The Council promptly organized a number of committees for the study of different questions bearing on the development

of the Graduate School, which have been actively engaged during the year, and a preliminary report was presented to the University Faculty at a special meeting held May 21, 1929, and unanimously adopted. This report stresses the very obvious fact that the vital element in any graduate school must ever be the character of the instructional staff. It called attention to the importance of adequate library and laboratory equipment and recommended that a teaching load of nine hours be regarded as a maximum for such members of the instructional staff as are engaged primarily in graduate instruction, with ample provision for temporary relief. A new plan of organization of the Graduate Council was recommended whereby the membership of the Council was made larger and more representative. It was recommended also that our present methods concerning the printing of Masters' theses and Doctors' dissertations be amended. It is not necessary to go farther into the details of this report since it was presented to the Faculty in printed form and is a part of the minutes of the Faculty, and is, therefore, accessible to anyone interested.

GRADUATE LECTURES

The University has had a notable group of scholars as lecturers during the year. In all cases the lecturers have also met with the members of the instructional staff and the graduate students of the departments concerned, in one or more seminars; and it is this intimate contact in the seminars and the opportunities afforded for conferences and discussions that is of even more importance than the lectures. The list of the more notable lecturers is as follows:

Professor Edwin B. Frost, Director of the Yerkes Observatory of the University of Chicago. Subject: The Motion of the Fixed Stars (October 16, 1928).

Dr. Georg Kartzke, Professor of Education in the University of Berlin. Subject: Present Tendencies in German Education (October 23, 1928).

Mr. Benjamin Stolberg, Associate Editor of the *Bookman*. Subject: The Changing Relations Between Capital and Labor (October 30, 1928).

Mr. J. J. Mallon, Warden of Toynbee Hall, London, England. Two lectures. Subjects: The Industrial Outlook in Great Britain; Contemporary British Politicians (November 2, 1928).

Dr. Romain Dyboski, Professor of English and Polish Literature in the Jagiellian Institute. Subject: The Old and New Poland (November 7, 1928).

Mrs. Cora B. S. Hodson, Secretary to the Eugenics Society of England. Subject: Pedigrees of Pauper Families (November 14, 1928).

Dr. Truman Lee Kelley, Professor of Education at Stanford University. A series of lectures on the general subject of Research in the Mental and Social Sciences (December 3 to 7, 1928).

Professor George D. Birkhoff, Professor of Mathematics at Harvard University. Subject: Mathematics and Art (December 3, 1928).

Professor Americo Castro of the University of Madrid. Subject: Certain Aspects of Pirandello's Relation to Cervantes (December 14, 1928).

Dr. Stanton Coit of London, England. Subject: Moral Education in English Schools (January 7, 1929).

Professor G. H. Hardy of Oxford University. Subject: Theory of Primes (January 18, 1929).

Professor James Westfall Thompson, Department of History of the University of Chicago. Subject: The Spread of Ideas in the Middle Ages (February 4, 1929).

Ivan Petrovitch Pavlov, Russian Peasant. Motion picture showing the Mechanism of the Brain (February 14, 1929).

Dr. W. T. Foster, Director Pollak Foundation for Economic Research, Newton, Mass. Subject: Planned Prosperity.

Professor Arnold Sommerfeld, Director Institute for Theoretical Physics, University of Munich. Two lectures. Subjects: The Conduction of Electricity in Metals; Modern Aspect of the Theory of Atomic Structure (April 1, 1929).

Dr. Rodney H. True, Professor of Botany and Director of the Plant Physiology Laboratory of the University of Pennsylvania. Four lectures as follows: Early Days of Plant Nutrition. Studies on Toxicity of Molecules and Ions to Plants. Antagonism and Balanced Solutions. The Calcium Requirements of Higher Green Plants (April 10 and 11, 1929).

Dr. Joseph H. Willits, Head of the Bureau of Industrial Research, University of Pennsylvania. Subject: The Problem of Over-Capacity in the Bituminous Coal Industry (April 19, 1929).

Count Carlo Sforza, former Italian Minister of Foreign Affairs. Subject: The Future of Europe (May 3, 1929).

Dr. Edward L. Nichols, former Head of the Department of Physics, Cornell University. Subject: What We Know About Luminescence (May 9, 1929).

Professor Wilhelm Meyer-Lübke, author of important works on Romance Philology. Subject: The Linguistic Relations between the Germanic and Romance Peoples (May 9, 1929).

Dr. Alfredo Colmo of the University of Buenos Aires. Subject: A Comparison of the Governments of Argentina and the United States (May 16, 1929).

Dr. Claude S. Hudson, Director of the Chemical Laboratory of the Division of Public Hygiene, United States Treasury. Subject: Some Recent Advances in the Field of Carbohydrate Chemistry (May 21, 1929).

Professor W. Heisenberg, Professor of Theoretical Physics at the University of Leipzig. Subject: The New Quantum Mechanics (May 27, 1929).

RESEARCH WORK

Without question the research work of the University is increasing both in quality and quantity. It is unnecessary here to go into detail on this subject, since the Graduate Council will publish during the summer a bulletin giving a brief account of the research work completed and in progress during the year. Experience will show whether such a bulletin should be published yearly. It will serve at least to give information as to the problems that are under investigation and the members of the instructional staff engaged in the solution of these problems. It is hoped also that it will serve as an incentive to the carrying on of research work and will help the Graduate Council to spend wisely any funds appropriated for the encouragement of research.

FUNDS FOR RESEARCH ASSISTANTS

The Graduate School is inseparably bound up with research work, and the character of the Graduate School is largely determined by the character of the research carried on by the members of the instructional staff and the graduate students under the guidance of the staff. Undoubtedly the most important advance made during the year in the encouragement of research was the appropriation of a fund of $10,000 for research assistants. The Graduate Council made an extended study of applications for assistants from this fund and used every endeavor to spend it wisely. The following members of the instructional staff received grants:

Albert P. Weiss, Department of Psychology—$2,000. Instructor to relieve Professor Weiss from his undergraduate teaching in order that he may devote

all his time to his investigations on (1) Infant Behavior, and (2) The Psychological Factors Involved in Automotive Driving.

William Lloyd Evans, Department of Chemistry—$1,000. Research Assistant. Subject of Investigation: Problems Connected with the Chemistry of the Carbohydrates.

Edward Mack, Jr., Department of Chemistry—$1,000. Research Assistant. Subject of Investigation: The Size and Shape of Molecules.

Alpheus W. Smith, Department of Physics—$900. Research Assistant. Subject of Investigation: The Absorption of Light by Organic and Inorganic Vapors.

Sidney L. and Luella C. Pressey, Department of Psychology—$805. Research Assistant. Subject of Investigation: The Evaluation of Freshman Week and Related Problems.

Francis W. Coker, Department of Political Science—$500. Research Assistant. Subject of Investigation: Recent and Contemporary Political Thought.

Henry R. Spencer, Department of Political Science—$500. Research Assistant. Subject of Investigation: Government and Politics of Italy.

Homer C. Hockett, Department of History—$500. Research Assistant. Subject of Investigation: Constitutional History of the United States.

Frederic C. Blake, Department of Physics—$500. Research Assistant. Subject of Investigation: Crystals of Organic Compounds as Determined by X-ray Analysis.

Charles B. Morrey, Department of Bacteriology—$500. Research Assistant. Subject of Investigation: A Study of Certain Endotoxins.

Wilbur H. Siebert, Department of History—$450. Research Assistant. Subject of Investigation: Source Material Relating to the History of Florida during the Period 1763-1774.

Cecil E. Boord, Department of Chemistry—$400. Research Assistant. Subject of Investigation: (1) Organic Rubber Accelerator and (2) Certain Reaction Mechanics: Assembling Results for Publication.

John F. Lyman, Department of Agricultural Chemistry—$320. Research Assistant. Subject of Investigation: Relative Food Value of Whole Wheat Flour and Patent Flour.

Leonard W. Goss, Department of Veterinary Medicine—$300. Research Assistant. Subject of Investigation: The Causes of Sterility in Cattle.

Albert B. Wolfe, Department of Economics—$225. Research Assistant. Subject of Investigation: Studies in Population.

Marbury B. Ogle, Department of Latin—$100. Research Assistant. Subject of Investigation: The Latin Literature of England Previous to the Rise of Literature in the Vernacular.

The reports of progress and results from each of the above persons have been received and will be published in due time. It is hoped that the President may find it possible to increase this fund generously from year to year as the demand for assistants increases.

THE SUMMER QUARTER IN THE GRADUATE SCHOOL

The summer school in its infancy consisted primarily of popular lectures with various forms of entertainment interspersed. In other words, it was designed to offer a pleasant and more or less profitable way of spending one's vacation period. As time advanced, in response to the demand, the program of the summer school took on a more serious aspect until at the present time the work of the summer schools is as thorough and advanced in character as that offered during the remainder of the year. Indeed, the instructional staffs of the departments in many of our summer schools consist of a more distin-

guished group of scholars than during any other period of the year. As a result, the summer sessions have assumed more and more the character of graduate schools, and a large body of teachers both in our public schools and our colleges are taking advantage of the opportunity offered to pursue advanced work leading to graduate degrees. Indeed, while summer schools are serving many different purposes, undoubtedly the most important of all of these is this opportunity for advanced work offered to the teachers of our schools and colleges, and they constitute the largest unit of the summer-student groups. In our own University the number of graduate students enrolled in the Summer Quarter has increased year by year until in 1928 the enrollment in the Graduate School was nearly twice as great as that in any one of the other quarters and exceeded the enrollment in any of the undergraduate colleges. It shows, therefore, that the program of our summer quarters should provide ample opportunities for this very important constituency. There is still a tendency on the part of many of the departments to regard the summer quarters as a sort of appendage to the other quarters. Until we can realize that the summer quarter is just as important a part of our academic year as any of the other quarters and act accordingly, the University will not reach its full possibilities.

RESEARCH CONFERENCES

During recent years the growth of the Graduate School and of the Department of Chemistry have made it increasingly evident that it was impossible for any one person to act both as Dean of the Graduate School and Chairman of the Department of Chemistry. Accordingly, at the opening of the present academic year the Dean of the Graduate School resigned the chairmanship of the Department of Chemistry. This left him free to devote additional time to the encouragement of the research work of the University. Much of his time during the year has been spent in conferences with those members of the instructional staff who were devoting a marked percentage of their time to investigation and productive scholarship. These conferences have always been held with an earnest desire on the part of the Dean to render assistance to all those working under adverse conditions. Appropriations made possible to some extent the purchase of special apparatus for research work where such apparatus was necessary for its continuance and completion, and the employment of research assistants. This method of procedure has proven a wise one and has had much to do with fostering a spirit of scholarly work on our campus and with increasing the research work in the University, both in quantity and quality.

Anyone who has watched the trend of the time in educational matters in recent years cannot fail to recognize the constantly increasing demand for graduate work. Never has research work been so highly regarded or research workers so much in demand as at the present. Problems of increasing complexity must be solved if civilization is to continue in its advancement, and these problems must be solved in our libraries and laboratories. Our own state has many colleges of excellent standing where the undergraduate student may find suitable facilities for his work. It is the unquestionable duty of the Ohio State University to build up a Graduate School the equal of any. The undergraduate colleges of our state expect us to do this, and the University will never measure up to its full possibilities if it fails to provide adequately for the training of scholars in the higher region of University work. We are

making rapid strides in this direction and a number of our departments, both in personnel and equipment, will compare favorably with similar departments in other great universities. Unquestionably, this advance will continue, for a new spirit of productive scholarship has risen on our campus. I can pledge the Graduate Council to do everything in its power to foster this spirit and to make our Graduate School outstanding in every way.

In conclusion, I wish to thank you, Mr. President, for your interest in the growth of graduate work, and the members of the Council and all those members of the instructional staff interested in graduate work, for their cooperation in everything that pertains to the welfare of the Graduate School.

COLLEGE OF AGRICULTURE

Dean, ALFRED VIVIAN

STUDENT ENROLLMENT

The enrollment of students in the regular courses of the Coilege shows a slight increase over that of last year. The improved attitude toward farming should continue to be reflected in increased attendance in the future. The enrollment this year is as follows:

Four-year courses in Agriculture	508
Four-year courses in Home Economics	355
Winter Courses	118
Total	981

The corresponding total for last year was 953. A detailed statement of the enrollment by departments and courses is given elsewhere in this volume.

OTHER ACTIVITIES ON THE CAMPUS

Year by year there comes an increasing demand for short courses, conferences, and other services, to be rendered to groups who come to the campus for periods of from one day to two or three weeks. The faculty of the College of Agriculture welcomes the opportunity to be the host to these groups, and considers such work an important service to the state. In each case the faculty takes such part in the programs as is consistent with its function as a body of teachers. In some cases these meetings result from the initiative of the faculty, and in others they are the result of urgent requests from the outside. The meetings held during this year are merely listed with a statement of the attendance.

Farmers' Week	Attendance
Farmers' Week	6,628
School for Rural Pastors (In cooperation with Ohio Council of Churches)	43
School in Poultry Judging and related subjects	90
Annual Shorthorn sale and show	500
Annual Jersey sale and show	400
Brown Swiss sale and show	250
Meeting of 100-Bushel Corn Club	20
Grange Lecturers' Short Course	85
Annual Extension Conference	225
4-H Club Congress	496
Corn Breeders' Visitation Day	50
Home Economics Extension Conference	51
Ohio Baby Chick Fair and Conference	1,800
Purina officers and salesmen	60
Cow Testers' Training School	31
Judging Contest for Vocational Students	1,700
Apple Judging Contest for High-School Students	134
Electric Rural Service Men's Conference	92
4-H Club Picnics	4,000
Total	16,655

Of these meetings, the outstandingly new event for this year was the short course for Grange lecturers. The program which lasted for five days included a rather exhaustive and somewhat technical study of the functions of the Grange lecturer, and, especially, of the fundamentals of program building. In addition to members of our own faculty, the teaching staff included Professor Ralph A. Felton of Cornell University, and Miss Jennie Buell of Michigan State College.

DEDICATION OF THE FRANZ THEODORE STONE LABORATORY

One of the most significant events of the year was the dedication of the Franz Theodore Stone Biological Laboratory on Gibraltar Island on June 22, 1929, a complete report of which is published elsewhere. The ceremonies included the formal gift of the Island to the University by Mr. Julius E. Stone, President of the Board of Trustees, and the dedication of the site and the buildings to the purposes of advanced study and research in biology, especially in the field of fresh-water aquatic biology. This generous gift of Mr. Stone has made possible the launching of an educational project that promises much for the advancement of biological knowledge, notably along lines of economic importance. Special attention is called to the report on this laboratory found on page 54.

RESEARCH

The statements presented under the department headings show a very healthy increase in the number of research projects being conducted by the departments, and in those completed during the year. Another year's experience with the arrangement for cooperative research with the Experiment Station emphasizes its value to both the College and the Station. It is hoped that at least two more departments can be added to those cooperating with the Station during the coming year.

EXTENSION SERVICE

The law requires that a report of the Agricultural Extension be made at the end of the calendar year. The report for 1928 has been presented to the President of the University as required. In addition to those on the regular extension staff, each member of the resident teaching staff does a limited amount of extension work. The College feels that some extension work on the part of the resident teacher is desirable, in order to keep in touch with the thought of the man in the field. As the resident teachers widen their circle of acquaintances in the state, the demand for their help becomes more insistent, so that every teacher, whether he will or not, becomes in a way an extension worker, if his resident teaching is inspiring.

THE FRESHMAN PROBLEM AND IMPROVEMENT OF TEACHING

For a number of years the Dean and the Secretary have been devoting special attention to the freshman students, assisting them in becoming oriented and offering vocational assistance of various kinds. Some progress was also made in the matter of the improvement of college teaching, with the help of the Department of Agricultural Education. The appointment of a Junior Dean for this College has resulted in considerable advance in both these lines. Junior Dean Nisonger's past experience, especially in the field of professional

education, has given him an excellent equipment for this work, which is of so much importance that considerable space will be given to the activities of the Junior Dean, and to a report of the interesting innovation in science teaching made during the year by the Department of Botany.

PERSONAL ACTIVITIES OF THE DEAN

Outside calls continue to come in large numbers, and it has become a problem to know just where to draw the line and what calls to accept. The calls for service on special committees has become especially burdensome. During the year the Dean acted as "Master of Ceremonies" on the radio programs from WEAO on the second and fourth Wednesday night programs of each month (Farm Night programs). He also gave a series of sixteen talks as a part of these programs. He spoke during the year in eight other states. All this is in addition to his regular administrative duties.

DEPARTMENT OF AGRICULTURAL CHEMISTRY

During the autumn and winter quarters the Department of Agricultural Chemistry shared its large laboratory with the Division of Analytical Chemistry, because the new laboratory for the latter division was not ready for use. In spite of crowded conditions in the laboratory during these two quarters our classes went on as usual, and everyone made the best of the situation with a fine spirit of helpfulness and cooperation. The new branch of the Chemical Supply Room, established last summer in our former balance room, has been a great convenience and help to the work of the department.

RESEARCH

During the year three students will receive the degree of Doctor of Philosophy with major work in this department.

John D. Guthrie conducted his research on the quantitative determination of the pigments of green leaves.

A. R. Winter studied the nutritive value of dried blood.

Emory F. Almy devised an improved method for determining lactose in milk.

The Graduate Council granted Mr. Lyman the sum of $320 to pay an assistant for studies on the effect of added crude fiber upon the nutritive value of a diet of white flour, meat, potatoes, butter, sugar and salt. Mr. Lyman has studied the effect of aluminum baking powder on the growth of rats and on the digestibility of the ration.

Although teaching schedules for the departmental staff have been heavy for the year and less time than usual has been available for research, several articles have been contributed to scientific magazines by members of the staff.

EXTENSION SERVICE

Mr. Lyman gave a series of seven radio talks on Food Chemistry during October and November. He also took part in three conferences of Agricultural County Agents and Home Demonstration Agents. He appeared on the program of the Southern Teachers' Association at Cincinnati. Some correspond-

ence has been taken care of by the department, and a few samples of materials sent in have been tested.

DEPARTMENT OF AGRICULTURAL EDUCATION

THE PROGRAM IN THE TRAINING DEPARTMENTS

The work of the critic teachers in the training departments deserves commendation for the efforts put forth by these instructors to provide the student teachers with a variety of experience related to both the in-school and the out-of-school duties of the vocational teacher. The assignment to student teachers of responsibilities that go with the organization and direction of the supervised farm practices of the high-school boys has been continued. The aim of the critic teachers is to give these prospective teachers as many experiences as possible which will be theirs when they take charge of departments themselves. The fact that the conditions under which the student teachers work are so nearly normal and the training therefore so direct and true to life constitutes one important reason for the high rating of our training program by the federal agents and the supervisors and the teacher trainers in other states.

During the year Professor Stewart has spent one or more afternoons each week in the training schools assisting students and critic teachers in the development of the student teachers. Conferences with the students have been held each week throughout the year, and conferences with the critic teachers less regularly for the purpose of checking up on the training program and suggesting improvements.

For the first time we are submitting a review of the work done by one of the training teachers, Mr. E. O. Bolender, as an indication of the possibilities of our program in a rural community. It should be emphasized that this work has been conducted by Mr. Bolander in addition to his regular class load of six periods a day and his work with the student teachers. For the third year a regular and accurate test of dairy herds has been conducted. This year eight boys have completed their production and testing records on their home herds. In three years only one butter-fat test by one boy has been omitted. Insight into their dairy herds which these eight families have is of no minor importance. Boys of the department have for the third year kept farm account records of their home farms and had their record books analyzed at the close of the year. For the second year ten boys have completed these records. Each year the best book from each department in the state is submitted in a state contest. Last year Mr. Bolender's entry won first place and this year fourth place. Five boys entered the ton-litter contest last year, and three ton-litters were produced. This year three boys wrote in the state scholarship examination, and all three of them were winners of scholarships. In the supervision of swine projects, Mr. Bolender has made a contribution to the teachers of the state through the practice of weighing a litter monthly and developing weight-graphs by which the boys have been able to visualize their progress in producing their ton-litters. This practice has been written up and made available to the teachers of the state. In the cooperative purchase of baby chicks in project work, the boys have secured 5,500 chicks; and in the cooperative purchase of feed for their dairy, swine and poultry projects, they have purchased over nineteen tons of feed, much of which they would have been unable to pur-

chase individually due to the large minimum units in which the feeds are available. This year the boys have ownership of, or managerial responsibility for, 51 brood sows and the litters on their respective home farms. A large number of these are entered in the ton-litter contest, and at least four of the boys are entered in the pork-production contest which is based upon the average of all the litters on the farm. The influence of this type of work among all the boys of the department, their parents, the farmers of the community and, as it is made available, among all the teachers of the state, is of inestimable worth. We need more teachers who sense the possibilities of our vocational program and who have the ability and personality to make it a realization.

RESEARCH

Progress in our program of research has been continued with abundant cause for pleasure over results already obtained. The study of "teacher load" of teachers of vocational agriculture directed by Supervisor Fife has been concluded.

The measuring of agricultural progress in swine management was introduced last year, and as a result the same study is being carried on this year by approximately fifty teachers in the state. The report of this work for last year has been sent to the state supervisors and teacher trainers and unusually complimentary comments have been received.

On a similar basis a measurement of the poultry enterprise is being undertaken this year with half a dozen teachers carrying on the pioneer work.

The outstanding research of last year, already mentioned as a study of Project Accounting and Practices directed by Professor Nisonger with the assistance of others on this staff and the state supervisors, has been summarized in a temporary way as a "report of progress" and the results made known to the various states. As a result we have again received praise for the quality and scope of research undertaken by our staff. Inquiries relative to the study have been received from California and Colorado as well as from several states in the central and the eastern regions.

The new research which we are undertaking is a study of records and reports for supervisors of vocational agriculture in which it is proposed that the items that are necessary, according to certain determined standards, shall be ascertained and later incorporated into forms for reporting. The outstanding feature in determining the necessary items is that of *function* or *use*. This study has already made contact with each state in the Union.

The resignation of Professor H. W. Nisonger of his position in this department to become Junior Dean of the College left a vacancy which it was impossible to fill during the year. This position will be filled for next year.

DEPARTMENT OF AGRICULTURAL ENGINEERING

One of the outstanding features of the agricultural development of the last two decades has been the enormous increase in the value of the machinery and other equipment of the farm. The average value of the machinery alone per cultivated acre of land has increased threefold in that period. Already the American farmer handles from six to eight times as many acres per man as the European farmer, and this has been made possible largely through the development of farm machinery by the American inventors. The scarcity of

farm labor and the relatively low rate of profit from farming will demand in the future a further extending of man power by the use of machinery and better managerial methods. The fact that agricultural engineering is one of the newer phases of agricultural education and has suddenly come into such prominence, has resulted in calls for extra-curricular service in this work which it is practically impossible to fill even with a group of willing workers such as are found in most of our college departments. In this department, especially, it is found necessary to supplement the work of the regular extension staff with a large amount of what are really extension activities on the part of the resident staff. This service, however, is a distinct asset to the state and to the University.

RESEARCH

This department has charge of all the research in agricultural engineering under the Experiment Station and is one of the departments working under the cooperative arrangement previously mentioned. The following projects are under way:

1. Study of Power Requirements and Capacities of Large Farm Feed Grinders.—Silver.
2. Study of the Fertilizer Distribution About the Hill of Corn in Corn Planters.—Reed.
3. Study of the Flow of Water in the Drainage System of the Pauling County Farm.—Overholt.
4. Study of the Effect of Different Methods of Seed-Bed Preparation on the Yield of Corn.—McCuen.
5. The Combine Harvester in Ohio, Its Efficiency and Its Effect on Farm-Management Problems.—McCuen, Silver, Sitterly.
6. The Effect of Heating the Floors of Poultry Houses on Keeping Litter Dry in the Winter and Spring.—Stahl, Twitchell.
7. A study of Soft Corn Storage.—Stahl.
8. A design of Sweet Clover Crown Cutter.—Reed.
9. Study of the Use of Electricity on the Marysville Experimental Line. —McCuen, Blauser.

   (This project is made possible by a special fund provided by the East Central Division of the National Electric Light Association.)

These problems all have a bearing on the more efficient use of machinery in agriculture to make it possible for the Ohio farmer to produce more efficiently and solve his economic problems by producing at a profit. Improved machinery will do much toward making agriculture profitable. The trends in agriculture clearly indicate that more machinery is being used each decade. Research in agricultural engineering is as yet in its infancy, but the interest that the farmers are showing in this work clearly indicates that it has a very important place in the program of the University and Station work as a whole.

Various members of the staff have made important publications during the year.

RURAL ELECTRIFICATION

Rural Electrification is a real problem today. The farmers of Ohio are very much interested in the study, judging from the number of men who visit the department asking for information relative to this phase of agricultural engineering.

The first rural service men's service conference was held at the Univer-

sity last November 9 and 10. Speakers on the program included men from the leading Utility Companies, the manufacturers of electric equipment, Professor T. E. Heinton of Purdue University, Mr. Blauser, and Mr. McCuen. We had planned for an attendance of about 30 men, but the final registration was 92, which was more than gratifying to the department. This registration indicated the interest that exists among the Utility Companies and the manufacturers. A conference for this year is scheduled for October 25 and 26. At the close of the conference Mr. Weaver, vice-president of the Ohio Edison Company, Springfield, Ohio, and past president of the East Central Division of the National Electric Light Association, spoke briefly relative to the value of the conference and to the industry as a whole, closing with this remark: "Gentlemen, this meeting has proved two things to this industry; first, Rural Electrification is a real problem of some magnitude; and second, that something practical can be accomplished by an institution of learning."

The following radio talks were made by members of the department:

Greater use of mechanical power on the farm.—McCuen.
Binder troubles and remedies.
Plow adjustments for better plowing.—Reed.
How drainage benefits the soil. (two talks)
Planning a drainage system.
Installing a drainage system.
Maintaining the drainage system. (two talks)
Getting dollars out of ditches.
Safe disposal of farm sewage.—Overholt.
Profits in Concrete.
Poultry House construction.—Stahl.
Harvesting corn mechanically.
Characteristics of good plowing.—Silver.
Convenient arrangement of farm homes.—Twitchell.
Winter care of machinery.
Machinery in corn borer control.—Barden.
Some things electricity will do for the farmer.
Some essentials in farm home and farmstead wiring.—Blauser.

DEPARTMENT OF ANIMAL HUSBANDRY

LIVE STOCK

In a previous report mention was made of the fact that a number of cattle, representing considerable financial value, had been sacrificed in order to carry out Dr. White's program for the eradication of abortion disease from the University herd. It is gratifying to note, after fifteen months of segregation on the basis of blood tests, but four abortions during the past year, and on the last two ninety-day tests, no reactors whatever were detected. Under the present system of management, an abortion-free herd seems a reality. Replacements and new acquisitions to the herd are selected with the utmost care as to health, and only purchases subject to a negative blood test, as well as to a sixty-day tuberculin retest, are made.

The construction of two maternity stalls in the Dairy Barn, with a steam line running through them and the block of calf stalls also, has apparently oversome the difficulty previously reported in raising young calves. There have been no cases of white scours or pneumonia the past year. The steam

line through the farrowing pens in the Swine Barn has also greatly improved conditions at farrowing time.

A scheme of rotating sheep and hog lots alternate seasons is being tried out this year, with the view of more complete parasitic control in both classes of live stock. By this means fresh ground is available each season for both lambs and pigs, the parasites that infest the one not being communicable to the other. The plan has already worked effectively in preventing losses formerly suffered following treatment for cholera and alleged to be due to the low resistance of the pigs caused by worm infestation.

The Farm Operations Division has made available this season about ten acres of ground west of the Hocking Valley Railroad, on which forage crops are grown and pastured by hogs and sheep, thereby relieving the overstocked condition previously experienced during the pasture season. Part-time use of some twelve acres of pasture on the Poultry Reservation has also aided in meeting the pasturage requirements.

A change of barn management was brought about through the appointment of Cecil Koger to the position of Herdsman. This change has worked toward a marked improvement in conditions surrounding the swine plant.

HONORING MR. FYFFE

Mr. David M. Fyffe, now past seventy years of age, has served the University for twenty-three years as Superintendent of Live Stock, and during that period has established a broad acquaintance not only with live-stock farmers but with business men throughout the state. These contacts have made many friends for the University. For some time friends of Mr. Fyffe have been appealing to him to write his memoirs of the live-stock industry in this country. Few men, if any, now living have had the extended experience in the live-stock affairs of this country that David M. Fyffe has had. He has acquired a fund of live-stock lore of which some permanent record should be made. One of the rarest experiences of students in the College of Agriculture has been their acquaintance with "Uncle Davie." It has, therefore, been deemed advisable to effect a reassignment of the duties of Mr. Fyffe, relieving him of his responsibilities for the live stock so as to permit him to devote as much of his time as possible to writing, advising with students and stock men relative to practical live-stock matters, and making outside contacts. By so doing, we believe Mr. Fyffe's talents are utilized in the most effective way.

RESEARCH

Mr. Helmrich and Mr. Heizer have continued their work for the Doctor's Degree, while Mr. Thomas Scott Sutton has completed his requirement for the Master's Degree.

Mr. Helmrich's major work deals with the effect of soy-bean rations on the quality of pork. Thirty hogs, by the same sire, have been fed for a period of six months on rations varying in percentage of soy beans and soy-bean oil meal and these were checked against the standard corn and tankage ration. This work, as well as previous study, has demonstrated the undesirable effect of 20 per cent or more of soy beans in the ration and indicates that soft pork, so far as soy beans are concerned, depends upon, and is quite directly proportionate to, the amount of soy beans eaten by the hogs. This study is being continued under Prof. Coffey's supervision, and the analytical work will be

done this summer in the Department of Agricultural Chemistry under Dr. Lyman.

Mr. Heizer has nearly completed his thesis on "Breeds of Dairy Cattle in America and the Relation of Breed Development to Prices Paid for Cattle of the various breeds at Public Auction." He is also working on the following special problems:

1. Inheritance of Coat Color in Jersey Cattle. In this study the data at hand show evidence of a sex-influenced factor for color in Jersey cattle. There is a distinct correlation between solid body color and pigmented tongue and solid switch color.

2. Inheritance of Coat Colors in Horses. Coat colors as found in horses have been arranged in three series of allelomorphs with the colors gray, roan, and dun heading the three series. These colors were known to be dominant to the colors below them in each series. The purpose of this study was to determine the relative dominance of these three colors when crossed with each other. There is some evidence, as shown by data at hand and personal observation, that gray is the same as blue roan genetically. This roan factor is dominant to all others and seems to work independent of color.

3. Inheritance of Gait in Horses. This work is just in progress and will be completed during the summer term. It is a study of the inheritance of trotting and pacing gaits of horses.

Mr. Sutton's thesis is on "The Type of Milk Inspector's Score Card Used."

OTHER ACTIVITIES

The resident instructors have had the usual number of outside engagements addressing farmers' meetings, breeders' associations, luncheon clubs, radio talks, etc. Notable among Professor Kays' engagements have been addresses before the Canadian Percheron Breeders' Association at Brandon, Manitoba, and the Philadelphia Horsemen's Club. Professor Kays judged horses at the Minnesota State Fair, the American Royal at Kansas City, and the International at Chicago. Professor Coffey judged swine at the Illinois State Fair and the International at Chicago. Professor Salisbury judged dairy cattle at the Michigan, Wisconsin, Indiana, and Ohio State Fairs, the East Tennessee Fair at Knoxville, the Jersey Parish Show at Grand Rapids, Michigan, and the Indiana Dairy Calf Club at Sheridan, Indiana.

The Dynamometer was used in demonstrations and pulling contests at ten county fairs, the Ohio State Fair, and the Annual Farmers' Week here at the University. In the State Fair contest a heavyweight pair of grade Belgians, owned in Darke County, pulled their way to the championship of the United States for 1928. Fourteen Multiple Hitch demonstrations were held, Professor Kays cooperating with H. L. Young, of the Horse Association of America.

DEPARTMENT OF BOTANY

RESEARCH

The major research projects conducted by this department are here enumerated to indicate that the intensive study of teaching methods has not proved to be incompatible with a good program of productive reasearch.

Most of the results of these studies have been published, as well as a number of other articles and bulletins by members of the staff.

1. Vascular Flora of Ohio.—Kellerman and Schaffner and their students.
2. Original Vegetation of Ohio.—Transeau, Sampson, Sears, etc.
3. Relation of Original Vegetation to Environmental Factors.
   —Transeau and Sampson.
   Relation to Climate.—Transeau.
   Evaporation studies.—Sears, Dachnowski, Howard, Hicks.
   Rainfall periodicity—plains, prairie and forest.—Marks.
   Rainfall evaporation ratios in plains, prairie and forest.—Dehus.
   Relation to Soils.—Sampson.
   Relation to insect pests.—Transeau, Sampson, cooperating with Huber and Howard.
4. Forest Types of the Ohio Valley.—Transeau, Sampson, McCarthy, Meyer and Gordon, in cooperation with the Central State Forest Experiment Station.
5. Distribution and Ecological Relations of Crops.—Waller.
   Crop Centers.
   Crop Ecology and the Primary Survey.
   Crop Survey of Allen County.—Murray.
   Bamboos and paper making.—McClue (Ready for publication).
6. Internal and External Factors Involved in Transpiration.—Transeau.
   Daily periodicity of Transpiration.—Sayre.
   Effect of hairy coverings of leaves.—Sayre.
   Static diffusion through pores of small diameter.—Sayre.
   Opening and closing of stomata.—Sayre.
   Effect of light of different wave lengths on opening and closing of stomata.—Sayre.
   Movement of mineral salts in plants.—Bodenberg.
   Lifting power of evaporation, demonstration.—Thut.
   Physical properties of leaves.—Meyer.
   Measurement of standard rate of water vapor loss from leaves.—Meyer.
   Methods of sampling leaves for determining physical constants.—Meyer.
   Osmotic and lyotropic effects on imbibitional swelling of kelp.—Meyer and Vance.
   Survey of water loss from 150 species of plants in their native habitats.—Blaydes.
   Daily periodicity of water loss.—Blaydes.
   Movement of water through submerged plants.—Thut.
   Passage of water from the cortex to the vascular bundles.—Kramer.
7. Factors in drought and cold resistance of plants.
   Cold resistance in evergreens.—Meyer.
8. Studies on the sex of plants.—Schaffner.
   Catalase reactions of male and female tissues.—Camp.
   Glutatione reactions of male and female tissues.—Camp.
9. Principles of Taxonomy.—Schaffner.
10. Taxonomy of special groups:
    Equisetaceae of the world.—Schaffner.
    Bambusaceae of the world.—McClure.
    Oedogoniales of the world.—Tiffany.
    Zygnemales of the world.—Transeau.
    Voucheriaceae of the world.—Brown.
    Lemusceae.—Hicks.
    The genus Iris.—Waller.
    Liverworts of Ohio.—Taylor.
    Mosses of Ohio.—Henderson.
    The Casteromycetes.—Johnson.
    The Agaricaceae.—Stover.

11. Chemical and physical properties of cell walls.—Sampson.
Abscission of leaves.—Sampson.
Abscission of twigs.—Lampe, Master's thesis.
Cell walls of algae.—Wurdack.
Cell walls of algae.—Tiffany.
Structure and development of flax fibers.—Anderson.
Fruit coat of Nelumbo.—Shaw.
Identification of sugars.—Morris.
Properties of hemicelluloses.—Mitchell.
Cell walls of fungi.—Thomas.

12. Freshwater Algae of the United States.—Transeau, Tiffany.
Algae of Illinois.—Transeau.
Periodicity of Algae.—Transeau.
Algae of Michigan.—Transeau.
Algae of Iowa.—Tiffany.
Algae of Ohio.—Transeau, Tiffany.
Algae of S. W. Ohio and West Virginia.—Mrs. Dennis.
Hybrids of Spirogyra.—Transeau.
Algae of Southern Coastal Plain.—Transeau and Brown.
Algae of Michigan.—Ackley.
Periodicity of the Oedogonisceae.—Tiffany and Transeau.
Algal food of fishes.—Tiffany, Coyle.

13. Physiological Development of Plants.—Transeau and Sampson.
Development of the corn kernel.—Lampe.
Minerals and the development of the corn plant.—Gerdel.
Relation of nitrate to development of cabbage.—Comin.
Effect of cultivation on vegetable crops.—Thompson.
Development of soybean seedlings.—Von Ohlen.
Breaking of dormancy in the tulip bulbs.—Moore.
Sweet Clover.—Willard.
Chemical changes in celery during storage.—Thompson.
Soybeans.—Borst.
Environmental effects on Lemnaceae.—Hicks.

14. Studies of Plant Diseases.
The Virus diseases
Tomato Streak.—Stover.
Mosaic Diseases.—Stover.
Effect of Soil Temperature on: Stem Smut of Rye.—Stover.
Seedling Blight of Corn.—Stover.

15. Sexuality in the Fungi.
In Coprinus species.—Humphrey.
In Glomerella cingulata.—Bauer.

16. Effectiveness of Fungicides.
Apple Scab.
Sprays and dusts.—Stover, Johnson.
Dusts.—Pierstorff.
Timing of applications.—Stover, Pierstorff, Johnson.
Apple Brooks' spot.—Pierstorff.
Apple Blotch.—May.
Oats Smuts.—Pierstorff, Sayre.
Wheat Bunt.—Stover, Runnels, Thomas.
Fungicidal Factors of Sulphur and Sulphur Compounds.—Liming and H. C. Young.

17. Experimental Studies in teaching General Botany.
—Departmental Staff, Sampson, Tiffany and Humphrey in charge.
Content of course.
Problem method.
Use of diagrams.
Synthesis of laboratory, lecture, and quiz in a unit five-hour course.
Time-saving methods of instruction.

DEPARTMENT OF DAIRYING

This department suffered a loss in the resignation of Assistant Professor H. D. Drain who leaves the College to go into the dairy industry at a large increase in salary. It is unfortunate that institutions of learning cannot compete in salaries with industrial concerns, especially at a time when the expense of living places undue emphasis upon the need of money to maintain a decent standard of living.

A reorganization of the work in dairying and dairy technology is in process and will be presented in the next annual report.

RESEARCH

In Dairy Manufacturing work has been done to determine what effect the addition of gelatine has on buttermilk—whether or not it prevents wheying off and whether or not it affects the flavor. A study was conducted to compare the quality of ice-cream made from milk powder and with other milk products. Milk powder is not at present used by the majority of plants in this state.

A paper milk-bottle machine was installed and for several days our milk supply was bottled in these paper bottles. A new machine is being built and the work will continue.

Investigation was carried on to determine the effect of the separation temperature on the whipping quality of the cream. The milk was pasteurized, cooled to fifty, and immediately separated. The preliminary results seem to indicate that the cream has more body and better whipping qualities than when the same milk is separated and the cream cooled afterward. The fat loss in the skim milk by this method did not prove to be excessive. Further work must be done on this before definite conclusions can be drawn.

The Chairman of the Department reports on investigations conducted on from twenty to thirty farms of the state on problems connected with high production, especially for cows on advanced registry test. These problems include: decreased cost of milk through increased production; effects on feeds and minerals upon reproduction; feeding endocrine material to correct sterility; production of milk to prevent rickets in children; feeding to eliminate goitre in calves; producing a milk which will increase the red corpuscles in the blood of the children who drink the milk; comparison of raw and pasteurized milk; effect of ultra-violet rays on cattle; effect of light passing through "Vita glass" on health of cows; comparative value of different hays for milk production.

A number of important articles have been published on these and other subjects by members of the staff.

OFFICIAL TESTING

The Chairman of the Department is directly in charge of the "official testing," and the following excerpts are made from his report.

With the object of raising to a higher standard the average production of the dairy breeds and securing an authenticated and permanent production record to which reference can be made when selecting animals for breeding, the cattle clubs and breed associations have established a Register of Merit and Advanced Registries.

The system enables the breeder desirous of improving his herd to ascertain the true dairy ability of his cows, not only to his own satisfaction but that of his customers as well and helps establish the value of herd sires.

Testing as a whole is in a transitory state at the present time. Nearly everyone concedes that the very existence of the various dairy breeds will depend upon the amount of testing and culling which is done in the coming years, yet it is not quite evident what the most effective form of testing will be in the future.

The herd test adopted by the Ayrshire Breeders' Association has been watched with particular interest by the other breed associations. This plan of testing was inaugurated by that association more than a year ago. January 1, 1928, the Holstein-Friesian Association adopted a herd-testing plan, and July 1 the American Jersey Cattle Club will institute what is known as the Herd Improvement Registry.

The prime object of the herd test is to obtain a record of the entire herd for the purpose of making definite herd improvement. It is designed to give the breeders a herd test that can be recognized as an official herd average and can be recorded and published as such. Under the plan all cows in any herd are tested, so that the producing ability of each individual cow in the herd may be ascertained.

Ohio breeders are evincing great interest in this plan of testing. There are very few herds of Ayrshires in the state, but last year 12 herds were tested under this plan. Nearly 30 Holstein breeders have entered their herds, and we feel assured that a large number of breeders of Jersey cattle will take up the work in July. Indications are that this will be an extremely popular form of testing.

The test supervisors are sent out by this Department; and all records received are checked and forwarded to the National breed associations, who keep all records and exercise a general supervision over the official testing.

DEPARTMENT OF FARM CROPS

The necessity of increasing the production per man on the American farms has given a new stimulus to interest in the subject of the improvement of varieties of farm crops. An increase in production which can be obtained merely by the use of improved higher yielding varieties is probably the increase that is most economically procured. In addition to this there is an almost unlimited field for research in the production of varieties of farm crops which are resistant to the disease and insect enemies that are ever becoming more prevalent. The staff of this department is well known nationally for the quality of its research.

RESEARCH

All members of the staff except Mr. Hardies are on part-time or full-time Experiment Station appointment.

Each man spends the summer in his own field of research, and all spend a considerable amount of time on certain projects throughout the year along with teaching. The cultural and breeding experiments with the various crops now occupy about 70 acres of land, mostly in small plots under intensive culture. It is not desirable to give space here to a list of all the research projects that each man has in progress, and only a few will be mentioned.

1. Corn Breeding. The largest single project is the corn breeding conducted jointly with the Experiment Station and the United States Department

of Agriculture. Two men trained in genetics, Mr. Meyers and Mr. Jorgenson, give their entire time to this work and employ extra labor during the growing season.

The major phase of the work at Columbus is a study of the value of the "synthetic variety" method of corn improvement compared with double crossing. Contributions toward solving the problem of living with the corn borer have already come from this work.

2. Wheat Breeding. Mr. Borst is in charge. The new hardy strains that survived the severe winter of 1927-28 are being tested at various points in the state to learn the extent of their adaptation. Further milling and baking tests are also being made to determine their value in the trade.

In his work on corn cultivation Mr. Borst is finding that corn responds very differently to intertillage on different soil types. On light-colored soil cultivation beyond weed control increased the yield of corn, but on black soil it made little or no increase.

3. Soybean Breeding. The soybean breeding, in charge of Mr. Park, has produced two new varieties that exceed their parent varieties in production of both seed and hay. These are being tested at widely scattered points in the state.

In cooperation with Mr. Borst studies are being made of the moisture content of wheat, oats, and barley during and following the ripening period; also the effect of degree of maturity on yield and milling quality of wheat.

The most spectacular, though not the most fundamental, part of Mr. Willard's research has consisted of investigations on the value of sodium and other chlorates as weed-killers. Preliminary tests last year were sufficient to justify tentative recommendations to farmers, and extensive quantitative tests to answer many of the questions involved are in progress this year. For the first time, we are able to recommend to farmers a simple, effective method of killing many of our worst perennial weeds, and farm interest has been very great. Since the treatment kills poison ivy, suburban dwellers, golf clubs, and the like have also been interested.

This department and the Department of Soils were joint hosts to the Corn Belt Section of the American Society of Agronomy on June 21. Fifty persons representing ten states came to see the field experiments that are in progress at Columbus. The next two days were spent in visiting the Agronomy Department at Wooster.

A number of important articles and bulletins have been published by members of the staff.

DIVISION OF FARM OPERATIONS

Farm Operations on the University Farm for the crop year of 1928 did not vary much in detail from previous years. We continued our plans for rearrangement of fields and roads which we began last year. It will probably take another year's work to wipe out most of the old lines.

In our plan for rearrangement we tried to work around the idea of locating the new farm-work horse barn built on the Waterman Farm. From this point as a working center our program has been developed. Construction on the new horse barn was started late in the fall and was about completed by the end of December. The main farm road was laid out and partly graded

during the year. It extends south from a point one hundred feet in front of through the center of the Sells Farm. Some fencing and ditching were done on the basis of our new arrangement of fields and roads.

This year we improved our drainage outlet for the land adjacent to Lane Avenue by replacing 1000 feet of 18-inch tile with 24-inch tile. This was then augmented by laying 600 feet of 20-inch tile in the roadside ditch on the west side of the Lisle Road extending north across Lane Avenue, by the construction of concrete walls and several catch basins. The improvement made by this drainage program was quickly recognized.

The Salzgerber tract of about 10 acres was then drained with lines of 4-inch tile laid every 30 feet and 50 acres of the Waterman Farm which lies north of Lane Avenue and west of our new farm road was drained with lines of 4-inch tile laid every 66 feet. These lines are 130 rods long and connect with an 8-inch "header" tile along the west side of the farm roadway, which in turn connects with the larger mains. This work about exhausted our tile supply and Farm Drainage Appropriation.

The farm fencing began in 1927 and was continued until the funds were exhausted. About 200 rods of fence posts were set and the twenty-four brick posts begun in 1927 were finished. Several hundred rods of wire fence were stretched during the year and more posts were painted.

An effort was made to adapt the well at the Waterman House for more satisfactory use in connection with the new barn and the proposed lot arrangement, but the work was not completely finished.

The farm equipment was repaired and painted as far as possible; but, with the increasing age of most of it, more time is required each year for this work.

The construction of a new farm house on the Sells Farm required us to have the old house vacated in the summer; but it was not until late fall that we were asked to remove the old log house, which was promptly done. The new house was enclosed and furnace installed before the end of December, 1928. Farm Operations was requested to install drainage for the basement, and another drainage system for the roof water. This was done in late November and early December.

The labor situation on the University Farm was not as satisfactory during the year as we had planned. Our production area was largely occupied with crops to be harvested during the summer period, and we had the smallest area in corn that we have had for a number of years. The supply of labor funds was insufficient to get all of our harvesting work done in July and early August, so that our crops were not all taken care of. The addition of three men to our regular payroll on the first of July has reacted very beneficially to our work. We have been handicapped by a shortage of dependable extra men, and these three additions have advanced our work quite noticeably.

With a shortage of labor funds, it was necessary to curtail our work for other departments, and we have things that we had planned to finish during the summer and fall which have not yet been completed.

Our farm equipment is getting older and needs considerable repair, which consumes a large amount of labor. We have not expended a large amount of money for replacements or additions in equipment.

The shoeing of farm teams by Mr. H. L. Bosart, one of our teamsters, has been continued through the year. It was quite satisfactory in 1927 and has

been more satisfactory during 1928. This was probably because Mr. Bosart has had the past year's experience and is getting more proficient in his work. The horseshoeing for the year was done at a cost of $167.28, while the same work based on prices paid in 1927 would have cost $299.26.

We had a total area of 513 acres in crops during the year 1928. The crop season was not favorable for harvesting a good share of our hay, and quite a lot of damaged hay was put in the barn during the early part of the season, some of it being rained upon three or four times before we could get it in.

The oats area was about the largest we have ever raised, which was due to the fact that we lost about 140 acres of wheat by winter killing, and as we had fertilizer on the ground, we deemed it advisable to seed it to oats.

Owing to the wet season, the corn on Lane View lots was not cultivated; and, not having labor to keep the weeds down, it was very weedy when put in the silo. We have usually grown about 100 tons of ensilage on this area, but this year we got 46 tons, which was about ⅓ weeds. We changed seed corn this year, and grew some early maturing corn from seed purchased near Upper Sandusky from Mr. D. M. Odaffer. It matured well and gave us a much larger percentage of seed corn than we have had for a number of years. Miami Oats seemed to do better for us than Fulghum, and most of our oat crop was of this variety. The yields and distribution of University Farm crops are here given:

CROP PRODUCTION AND DISTRIBUTION AT HARVEST TIME
1928

	Acres	Production Bu. or ton
Corn	70	778.0
Ensilage	25	194.4
Fodder	.....	70.0
Oats	234	7840.0
Barley	37	930.0
Alfalfa	43	149.4
Oat Straw	.....	87.3
Barley	.....	36.6
Mixed Hay	39	84.2

During the State Fair, manure was again hauled to the University Farm and this year was allotted to the Pheneger Farm, where it was distributed during the fall on the clover sod to be plowed under for corn in 1929.

The ensilage this year was put in the silo by means of a Ronning Ensilage Cutter outfit loaned by the International Harvester Company, which, with the limited amount of labor, was a very satisfactory method of putting up the ensilage, although our maximum tonnage would run about 40 tons per day of 9 hours.

We started the fertilization of the University pastures in October by applying about 400 pounds of 20 per cent acid phosphate per acre to about 100 acres. This will be followed by further fertilization with nitrates during the year 1929.

The demand for farm labor to be used in the service of other departments was no less this year than it has been in the past, and we made an effort to do all the work which it was reasonably possible to do. An area of about ten

acres was fenced for the Botany Department, which probably means that this department will require more work to be done as the years go by.

About the usual amount of work was done for the Animal Husbandry Department, and the Poultry Department, and in the maintenance of roads about the farm premises.

THE SCHOOL OF HOME ECONOMICS

A number of interesting developments have taken place during the year, and every division of the work has shown progress. One of the most significant events of the year is the establishment of the School of Home Economics. At the meeting of the Board of Trustees held March 11, 1929, the following action was taken:

"That the Department of Home Economics in the College of Agriculture continue its departmental organization and relations but that for purposes of clearer identification of the nature of the work, as distinguished from Agriculture, generally, and for the purpose of enlarged publicity, it be recognized also as the School of Home Economics with authority to publish a separate bulletin under that title; recommended further that Professor Faith R. Lanman, Chairman of the Department of Home Economics, be made the Director of the School of Home Economics. The proposed school shall have no administrative functions or organization."

FOODS AND NUTRITION

The courses in foods and nutrition have been carried on as heretofore under the chairmanship of Miss McKay.

The division has given help to outside organizations. For example, assistance has been given to the City Charities of Columbus in the formulation of a food list to be used in relief work, and students have carried on field work in helping needy families in the selection and preparation of food.

A nutrition advisory service for fraternities, sororities, and other organizations serving food to students has been initiated. This was done in response to a suggestion presented to the President of the University by the Ohio State University Association in June, 1928. The service was established as an experimental procedure for the Spring Quarter, 1929, in the School of Home Economics, Mrs. Elsie S. Minton being employed on a part-time basis as nutrition adviser. Mrs. Minton's work during the period has indicated that the service is needed and appreciated. In answer to her first letter to 120 sororities and fraternities, over 40 asked for and received some help. Because the period was to be brief and the work experimental she devoted herself primarily to intensive work with 11 groups which were most eager for assistance and most willing to cooperate. On our recommendation, the service is to be continued next year through the Autumn, Winter and Spring quarters by an assistant who will be employed on a part-time basis to work under the general supervision of Mrs. Minton.

Research in nutrition is being carried on under a cooperative arrangement with the Ohio Agricultural Experiment Station.

TEXTILES AND CLOTHING

Work in textiles and clothing courses has continued this year to place emphasis on the application of art, economics, and hygiene in the planning and selection of clothing. It has been the aim to set up standards.

Splendid cooperation with the leading stores of Columbus has continued and commercial concerns from out of the city have assisted in giving to the students valuable information concerning textiles and clothing. General expense studies have been made with special emphasis on clothing expenditures.

HOUSEHOLD MANAGEMENT

This division has offered courses as previously in household management, house furnishing, the buying of textiles and house furnishings, and a non-major elective called elements of homemaking which is becoming very popular.

It is of great interest and significance that this year work in household engineering has been added to the group of courses in this division, the required course called Agricultural Engineering 406, Household Mechanics, having been transferred to the Department of Home Economics in the summer of 1928. Mrs. Margaret Black, who had been a member of the home economics education division, was transferred to the household management division to teach this course and to direct related work for advanced students.

Mrs. Walker, chairman of the division, and Mrs. Black have made it possible for a number of graduate and undergraduate students to undertake the study of special problems in the field of household engineering and in the economic phases of textiles and clothing.

Aid has been given to outside organizations such as the Retail Merchants and to the Better Business Bureau in such matters as will help to bring about truth in advertising and better understanding of the economic and aesthetic values of merchandise.

It is hoped that the division may be able to do more research, and to add a course in family relationship soon.

CHILD DEVELOPMENT AND HOME HYGIENE

Real progress has been made in the work in child development. The regular undergraduate courses have been continued with great interest, and a number of graduate projects have been under way. This year Miss Medora Grandprey came into the staff as nursery-school teacher. Her fine background of training and experience have enriched the courses and improved the régime of our laboratory.

The management of the nursery school as a laboratory involves relationships with the parents as well as with the children attending. In order that there may be complete cooperation, a member of the staff visits in the home of each child before he is admitted to the nursery school, and during the year many conferences are held with the parents concerning the development of their children. In addition a quarterly meeting of the parents has been held.

The nursery playground has been enlarged and greatly improved during the year and additional equipment has been secured.

INSTITUTION MANAGEMENT

The plan adopted in the Autumn Quarter of 1927 of scheduling the students for only two courses during one quarter and requiring an average of six hours of practical work daily in the Pomerene Hall Cafeteria has been found very satisfactory in training students for institution management work. This new plan of presenting these courses is receiving considerable attention by the

institution section of the American Home Economics Association and is thought to be very worth while.

A small tea room has been opened in the alcove of Pomerene Hall Cafeteria by the class in Home Economics 632. This gives the class a small restaurant to organize and operate as a part of their laboratory work.

The cafeteria shows a reasonable growth in business at noon with a larger increase for the evening meal.

HOME ECONOMICS EDUCATION

The home economics education division has continued its work under the chairmanship of Miss Donnelly. Miss Clara Bancroft was transferred from her work in the student teaching center at North High School to join Miss Donnelly in her office in Campbell Hall. Miss Estelle Barton was appointed to take Miss Bancroft's place at North High School.

The courses have been carried on practically the same as last year. The methods used are progressive so that the class work itself is an illustration of good teaching and of student participation. As usual students have made observations in the public schools. All students scheduled for supervised teaching in the Autumn and Winter quarters were accommodated in our three student teaching centers, the high schools of Canal Winchester and Reynoldsburg, and North High School of Columbus. In the Spring Quarter, when there were more students enrolled for the work, some of them did their supervised teaching in the other schools of Columbus.

HOME ECONOMICS EXTENSION SERVICE

The work of the home economics extension staff is reported fully in the report of the Director of the Agricultural Extension Service. In addition to the work of the extension staff, the resident staff has cooperated in the regular extension program and has responded to many and varied outside requests for assistance in all phases of home economics.

RADIO PROGRAM

The radio program called the Homemakers' Half Hour which has been given through Station WEAO since October, 1926, has been continued. This year it has been scheduled at ten o'clock on Mondays, Wednesdays and Fridays. In the program many subjects of interest to homemakers have been presented by students and staff members. In addition to the contribution made through the Homemakers' Half Hour, a series of home economics talks has been scheduled by extension and resident staff members in the Farmers' Night programs which are presented weekly by the College of Agriculture.

ANNUAL EVENTS

Among the annual events to which the staff in home economics has given attention, a few should be mentioned. Nearly every member of the resident staff assisted in Freshman Week. The Home and Community program for Farmers' Week was this year, as usual, planned and put into effect. The Home Economics Section of the Ohio Educational Conference was planned for and presided over by Miss Bancroft. In June, on Alumni Day, members of the

home economics staff and student group served for the tenth time the annual Sunset Supper of the Ohio State University Association.

PERSONNEL WORK WITH FRESHMAN AND SOPHOMORE STUDENTS

This year, Miss Turnbull who is in charge of freshman textiles and clothing courses has cooperated with Junior Dean Nisonger of the College of Agriculture in an effort to develop a friendly relationship between students and teachers. See report of work of the Junior Dean.

DESCRIPTIVE BOOKLET

This year for the first time, a booklet descriptive of home economics work has been authorized by the University and prepared by the staff for advertising purposes. The work was done under the chairmanship of Miss Heiner and was published by the University Press. The booklet has been distributed widely to seniors in the high schools of Ohio.

OPEN HOUSE

Open house was held for the first time by the School of Home Economics on May the twenty-first, 1929. The hours were from three to five and seven to nine. At those times the classrooms, laboratories and offices were open and members of the home economics staff and students were on hand to welcome visitors. It is estimated that about four hundred guests came. They were much interested in the exhibits and many were apparently surprised to observe the scope of the work. The purpose of the open house was to call attention to the opportunities in home economics and to the training offered by the University. It is hoped to make this an annual affair.

RESEARCH

Through the use of federal funds provided by the Purnell Act and by special state appropriation for research, both of which are administered through the Ohio Agricultural Experiment Station, the School of Home Economics is continuing to carry on research through a cooperative agreement with the Experiment Station.

The following projects have been continued under the direction of Miss Hughina McKay, who is part-time professor in Home Economics, of the Ohio State University, and part-time associate in Home Economics of Ohio Agricultural Experiment Station.

Food Consumption of Farm Families in Ohio; completed and reported.

Basal Metabolism of Young Women; in progress.

Day by Day Variations in the Metabolism of Young Women; in progress.

Seasonal Variations in the Growth of Pre-School Children of Ohio; in progress.

Foods Used by Rural Families in Ohio during a Three-Year Period; recently started.

The project on which Miss Brinton has been working, A Study of Certain Cash Expenditures of Ohio Farm Families, has been carried on throughout the year and is nearing completion.

DEPARTMENT OF HORTICULTURE AND FORESTRY

The work of the year has proceeded as usual, and satisfactorily except for small number of students. While the class enrollment has been small, the quality of the students has been unusually good. Large numbers of young men and women should be attracted to the work of this department, since it offers many valuable opportunities for employment. It is hoped that the new arrangement to go into effect next year will attract larger numbers of students, because of the increased facilities of the department.

RESEARCH

The instructors have not had much time for research but a little is accomplished each year. Professor Paddock and Professor Charles are continuing their work with shading apple trees and have secured positive results. Our results in 1928 showed that muslin tents placed over apple trees at blossoming time and allowed to remain for two weeks produced no effect. But when allowed to remain three weeks or longer no fruit buds were formed. Similarly, when tents were applied three weeks after blossoming and allowed to remain for sixty days, no results followed; that is, blossom buds formed as usual.

We found further that twigs, shoots, and spurs may make second growth after July 20, set fruit buds, and mature a crop the year following.

These findings are contrary to anything that is to be found in the literature of the subject; consequently, we are continuing and amplifying our experiments. A preliminary report of this work was published in the report of the Society for Horticultural Science, December, 1928.

Numerous popular articles, mimeographed bulletins, and other publications have been made by members of the department.

DEPARTMENT OF POULTRY HUSBANDRY

One of the most amazing developments in modern agriculture has been the spectacular increase in the poultry industry. From a business of very minor importance poultry husbandry has evolved during the last one or two decades into one of the major branches of agriculture. The College desires to put its work in poultry husbandry on a basis worthy of the industry, but the very fact that the growth of the industry has been so rapid makes it difficult to convince those who appropriate the money that poultry husbandry is no longer a matter of a few hens and a little "pin-money," but an industry whose gross sales in the United States exceed the total value of the great wheat crop in America. A capable and willing staff is handicapped by inadequate provision for the work of teaching and research in this important field.

RESEARCH

1. Cane Molasses for Poultry. Experiments have been under way for the past three years. Progress reports of the investigation have been given before the Poultry Science Association (August, 1928) and the Sugar Division of the American Chemical Society (April, 1929). It has been found that cane molasses may be used to replace cereal grains, pound for pound, up to 10 per cent of the total ration. It is most beneficial in milkless rations. Cane molas-

ses is palatable, increases water consumption, acts as a mild laxative, increases growth and egg production, and reduces mortality. Present investigations include a study of its vitamin content and influence on bacterial flora.

2. The Nutritive Value of Blood-Meal Proteins for Growth. The experiment has been in progress for the past three years. Results of the work to date have been published as Ohio Experiment Station bulletin 436, June, 1929. Conclusions are: (1) blood meal is unpalatable; (2) the higher the temperature used in process of preparation, the lower the digestibility; (3) the biological value of blood-meal protein is low; (4) corn gluten and casein are efficient supplements.

Present investigations include a study of factors which influence palatability and the nutritive value of blood meal from different species of animals.

3. Nutritive Requirements for the Growth of Chicks. Work has been in progress for the past two years. An effort is being made to see how simple a ration may be constructed and yet produce satisfactory growth. It will be used as a basal ration in studying the protein, mineral, vitamin, and fiber requirements of chickens.

4. Systems of Feeding Poultry. During the past year four pens of laying hens have been fed the following rations: (1) scratch grain and mash; (2) all-mash fed dry; (3) all-mash, part fed wet; (4) all-mash fed granular. So far the all-mash fed wet has given most economical results. The experiment is being continued.

5. Comparative Value of Mineral Feeding Stuffs for Poultry. During the past two years experiments have been in progress to determine the comparative value of oyster shell, limestone, phosphatic limestone, rock phosphate, steamed bone meal, and raw bone meal for poultry. An effort is being made to determine the proper proportions and amounts to be used under different systems of management. So far it has been found that phosphatic limestone may be used to replace oyster shell as a source of calcium for egg-shell formation. It may also be used to replace bone meal in rations for growing chickens.

6. Protein Levels for Maturing Pullets. During past years three groups of birds were fed as follows: (1) protein concentrate reduced at 8 weeks; (2) protein concentrate reduced at 14 weeks; (3) protein concentrate not reduced.

The more protein the developing birds received, the quicker production began and the greater was the body weight at time of laying first egg. The experiment is being repeated at the present time.

7. Disinfecting Incubators. This problem was studied during the summer of 1928. Dr. Fred Speer, of the Department of Bacteriology, cooperated. The use of formalin was found to control the spread of Bacillary White Diarrhea during the hatching period. Details of this problem are reported in Extension Bulletin No. 90.

BABY CHICK FAIR

The second Baby Chick Fair was held in March, 1929. This Fair was scheduled during the spring vacation in order to secure room for various meetings and for the exhibits. Some 1,800 poultrymen attended the three-day meeting. There were thirty-six exhibits of poultry supplies and equipment. The indications are that this spring meeting of poultrymen will be the most popular general meeting held by the department, and that as time goes on the attendance will increase. The spring of the year is particularly well adapted

to such a meeting, since the farmers are securing their baby chicks at that season and are interested not only in the exhibits of baby chicks, but in the supplies and equipment necessary to raise them.

POULTRY FIELD DAY

The department held a general poultry meeting in October in order to give the poultrymen an opportunity to come to the University to inspect the Poultry Plant and the stock on the farm. The morning was devoted to demonstrations and tours of inspection at the poultry farm. In the afternoon a general meeting was held in the new Animal Husbandry Building. The attendance was about five or six hundred. A definite count was not secured.

Indications are that this Poultry Field Day, coming as it does just before the opening of winter when the poultrymen are housing their pullets and getting ready for production during the season of high egg prices, will grow in popularity, and that the attendance will increase as the meeting becomes better known and better advertised throughout the state.

Important articles and bulletins have been published by members of the staff in the course of the year.

DEPARTMENT OF RURAL ECONOMICS

The emphasis which the public press and others have placed, in their discussion of the problems of "farm relief," upon the economic or so-called business phases of agriculture has focused attention upon the work being done in the agricultural colleges in the various lines of rural economics. The realization that our fund of actual knowledge of this subject was very inadequate has resulted in this College's placing strong emphasis upon the subject of research in all branches of rural economics, including the marketing of farm products. The Department of Rural Economics of The Ohio State University has an enviable reputation for its research along these lines.

RESEARCH

Old Research Projects Continued During the Year

1. Cost of Producing Farm Products in Greene and Medina Counties. Three bulletins have been published on the results of this study. The fourth and last should be completed by July 1, 1929.
2. Farm Costs in Putnam County. The collecting of the field data in connection with this project was terminated Feb. 1, 1929. The data are being compiled.
3. Costs and Standards of Family Living on Ohio Farms. The collection of four years data under this project was completed Jan. 1, 1929. The data are now being compiled and interpreted.
4. The Movement of Farm Population in Ohio. This project has been continued as outlined. The collecting of the data was completed last summer; it is now being prepared for publication. Three preliminary reports (Rural Sociology Mimeograph Nos. 3, 4, 5) have been issued.
5. The Milk Shed of Northeastern Ohio. To be completed about Oct. 1, 1929.
6. Fifteen Years of Ohio Agriculture. This project has been continued. The manuscript should be completed by beginning of the Autumn Quarter.
7. Large Land Holdings in Ohio. This study is nearly completed.

New Research Projects Undertaken During the Year

1. The Truck as a Factor in Live-stock Marketing. A study of the

extent to which the motor truck is used in live-stock marketing in Ohio, and especially as to what changes the truck is bringing about in organization of live-stock marketing.

2. Direct to Packer Marketing of Hogs in Ohio. A study of the growth of the direct-to-packer movement and its implications.

3. The Grain Combine in Ohio. In response to requests the department interviewed last year every combine owner in Ohio. It is planned to continue the study this year and then to publish the results.

4. A Study of the Changes in the Social Organization of Rural Communities in Four Ohio Counties. This project has the active support of the Agricultural Extension Division, Farm Bureau, and the Grange. The study will be continued.

5. Wholesale Produce Markets in Ohio. This study was undertaken at the suggestion of the Horticultural Society. The data has been collected and the manuscript nearly completed.

Research Projects Completed During the Year

1. Live-stock Losses on the Cleveland Market. Manuscript now in hands of printer.

2. An Analysis of the Market Activities of the Ohio Poultry Producers' Association. Published as Experiment Station Bulletin No. 427.

3. Attitude of Ohio Wool Growers Towards the Ohio Wool Pool. Published as R. E. Mimeograph Bulletin No. 11.

4. The Credit Problem of Farm Supply Companies. Published as R. E. Mimeograph Bulletin No. 12.

5. The Effect of the Corn Borer on Farm Practices and Farm Organization. Published as R. E. Mimeograph Bulletin No. 14.

This is the fourth year that special provision has been made for research work in the department through specific appropriations. The list of publications will show that the work has now reached the stage where results are becoming available. At the time of the last report attention was called to the need of research work along the line of "Timely Economic Information for Ohio Farmers." With the employment of Mr. Straszheim, who works with Mr. Arnold, a beginning was made in this field. The work has met with excellent response. Due to lack of funds, we have not been able to do much work in the field of Land Utilization. It is the hope of the department that funds may be made available for work in this field next year. One of the pleasing features of the research work has been the keenness with which the results have been taken up by those concerned. The program of the Live-stock Loss Prevention Association has been built around Mr. Hennings' study of Live-stock losses on the Cleveland market. The local organizations of the Ohio Live-stock Producers' Association are now being adjusted along lines suggested in his study of live-stock trucking. The close contact with the Agricultural Extension Department on the one hand suggests many problems for study, and on the other hand has provided a ready market for the products of research. It was at the suggestion of the Extension Department that Mr. Schmidt was assigned to the study of Community Organization in four typical Ohio counties.

During the year Mr. Falconer and Mr. Lively have served on the Agricultural Economics and Rural Sociology Research Committees of the Social Science Research Council. Mr. Arnold has served as Chairman of the Committee of Economists on the National Corn Borer Committee, also on the Committee of the National Swine Producers' Association on price stabilization. Mr. McBride has served in an advisory capacity on the Price Policy Committee of the National Milk Producers' Association.

Various staff members have made important publications during the year.

DEPARTMENT OF SOILS

The resignation of Dr. Firman E. Bear as chairman of this department was presented on April 1, 1929. No attempt was made to fill the position during the current year, and the department worked under the temporary leadership of Professor Earl E. Barnes. A complete reorganization of the department will be made and will be described in the next annual report.

RESEARCH

The research done in this department is under the direction of the Department of Agronomy of the Ohio Experiment Station. Mr. McClure, Mr. Barnes, and Mr. Thrash are employed by the Experiment Station on part time for research. The work being carried on by Mr. McClure is an experiment to determine the effect of applications of nitrogen in different forms on the yield and chemical composition of pasture grasses.

Mr. Barnes is working on the relation of size-frequency distribution of soils, to the commonly measured physical constants of soil, such as moisture equivalent, hygroscopicity, wilting coefficient, etc.

Mr. Thrash has charge of the fertility plot work with general farm crops and vegetable crops on the University Farm.

Important publications have been made by members of the staff.

DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY

The Department of Zoology and Entomology continues to develop with the growth of the University, and the increase in registration over last year has been about normal. The increase in the laboratory work has again overburdened the staff of assistants in the laboratory, but they have shown an excellent attitude towards their duties and have cooperated thoroughly.

The graduate work has pressed us at all times, notwithstanding the fact that Doctor Alvah Peterson was added last fall as a full professor to assist especially in the work of the graduate field. The development of graduate work has been most encouraging, particularly with respect to the number of students who are working toward the doctorate. These students who go out with the highest training which we can give them are, of course, the most useful to the state and nation, and it is highly desirable that we encourage this type of work to the limit.

RESEARCH

Professor Raymond C. Osburn has directed the research of a number of Ph.D. candidates, who will complete the work for that degree in a short time. As Director of the Franz Theodore Stone Laboratory, he was responsible for the general research work of the laboratory. He also directed the research work conducted through the year by the Fish and Game Division of the State Department of Agriculture. This was in an advisory capacity as Chairman of the Advisory Board of the Division. The work was conducted largely on Lake Erie as a part of the cooperative study of the fisheries conditions in the Lake, supported jointly by the U. S. Bureau of Fisheries, New York and Ohio. This work is being continued actively at present with the further cooperation this season of the State of Pennsylvania and Province of Ontario

Professor Herbert Osborn has continued his life-time studies of economic insects, devoting special attention to Hemiptera. His vacation period, the Winter Quarter, was spent chiefly in Porto Rico, collecting material and studying conditions in that island. He has been called into conferences of various occasions with the Ohio Experiment Station, The U. S. Bureau of Entomology, the Tropical Research Commission, and various other organizations, concerning entomological research. He has also directed the research of various graduate students, four of whom have completed the work for the doctorate during the year.

Professor W. M. Barrows is interested especially in experimental work in zoology. He has directed the research of several students, both in genetics and in animal behavior. His own personal research has been too much limited by a heavy load of teaching. Professor Barrows is also an outstanding authority on the spider and has directed the work of two students in this field, one of whom took the doctorate during the year, and the other will complete this work in a short time.

Professor F. H. Krecker continued his work last summer on the "Oscillatory Movements of Water in Lake Erie," in relation to the distribution of the life in the lake. A paper on this subject has been published as No. 1 of the Contributions from the Franz Theodore Stone Laboratory. He has also directed some graduate work, particularly in the field of parasitology.

Professor D. M. DeLong has continued his work on economic entomology and the detailed study of certain groups of leafhoppers. Professor DeLong spent several weeks at Washington during the winter at the request of the U. S. Department of Agriculture, in settling some problems of identification. His summer (vacation period) was spent in work on the destructive bean leafhopper, in cooperation with the U. S. Bureau of Entomology. Like other professors in the department, he has spent a great deal of time in directing problems pursued by graduate students. One of these has completed the doctorate under his direction.

Professor Alvah Peterson, our new Professor of Entomology, continued his research work for the U. S. Bureau of Entomology until in September. He was senior entomologist in the Bureau and was assigned to work on the Oriental Peach Moth. Since coming to the University, Professor Peterson has devoted most of his time to the development of a course for our graduate students in entomology. This work, the Biological Control of Insect Pests, is of recent development, and no such course has been offered elsewhere. The organization of such a course necessitates deep research into the literature of entomology. At the same time Professor Peterson has directed the research of a number of graduate students.

Professor C. H. Kennedy has pursued his research on the Biology of Insects and has directed the research work of several graduate students. Some exceedingly interesting results on the nature of the insect intestinal tract have been worked out by graduate students under his direction. This, of course, has a relation to the economic field in connection with the various types of food in insect pests.

Professor W. J. Kostir has continued his research work on Protozoa and has directed the efforts of several graduate students along this line, one of whom completed the work for the doctorate during the year. Two Master's theses also have been completed under his direction.

The Instructors, Assistants, and Graduate Students have all been working

on research problems of various kinds in addition to course work. The results of these problems will be presented as a part of the requirements for advanced degrees and many of them will no doubt be published in the course of time.

Two members of the staff have done editorial work, one on the Ohio Biological Survey and the other as section editor of *Biological Abstracts*. A large number of important bulletins and articles have been published by various members of the department.

OTHER ACTIVITIES

Professor Raymond C. Osburn is Director of the Franz Theodore Stone Laboratory, an account of which is appended to this report. This work calls for constant attention during the summer quarter and for considerable time throughout the year. He has given a considerable amount of time also to advising with the State Fish and Game Division and particularly to directing the state's part of the investigational work on Lake Erie fisheries. He was reappointed by Governor Cooper as a member of the Advisory Board of the Division. This work calls for a maximum of a couple days a month. Professor Osburn is a member of the Council of the American Association for the Advancement of Science, and a member of the Executive Committee of the Zoology section of that organization. He is a member of the Executive Committee of the Ohio Academy of Science and on various other committees of scientific organizations.

Professor Herbert Osborn is a member of several important committees of national and state scientific organizations. He is chairman of Committee on State Parks and Conservation and a trustee of the research fund of the Ohio Academy of Science. Until January, 1929, he was Managing Editor of the *Annals of Entomological Society of America*, completing twenty years of work in that capacity, during which time he made that journal easily the greatest entomological publication of its kind in the world. He collaborates with several of the great museums in studies of Hemiptera. He spent the winter in Porto Rico collecting and studying, especially the Hemiptera, in which group he is recognized as one of the foremost authorities.

Professor William M. Barrows was engaged in the preparation of a laboratory manual to accompany his textbook on high-school zoology. His vacation quarter was spent at the University in writing and research.

Professor Frederick H. Krecker spent the first half of the summer as Assistant Director of the Franz Theodore Stone Laboratory. He is editor of the *Ohio Journal of Science*, which has become one of the best local scientific journals in America and which has a wide circulation, bringing into the University Library more than 500 exchanges.

Professor Dwight M. DeLong collaborated during the whole summer quarter with the U. S. Bureau of Entomology, working especially on the bean leafhopper, an important economic pest. He was stationed at the University for this work and found time to direct the research of a number of graduate students. He was called to Washington during the winter for consultation on certain groups of leafhoppers, which are among the most important of our plant pests and in which group he is one of the foremost authorities. He was given a short leave of absence for this work in connection with the spring vacation.

Professor Alvah Peterson came to us at the beginning of the autumn

quarter. His summer was spent in research work for the U. S. Bureau of Entomology in his capacity of Senior Entomologist.

Professor Clarence H. Kennedy had charge of the entomological work at the Michigan University Biological Station at Douglas Lake, Michigan, during the summer. He had been assistant editor of the *Annals of the Entomological Society of America* for a number of years, and when Professor Herbert Osborn retired from the editorship in January, Professor Kennedy was advanced to this important position.

Professor W. J. Kostir spent the summer quarter at the University, engaged in research work on protozoa. At the same time he found time to direct the research work of several graduate students.

Doctor D. F. Miller was employed during the summer by the U. S. Bureau of Entomology to carry on research on the behavior of certain insect pests.

Mr. J. W. Price had charge of the general zoology courses during the summer quarter and spent some time in research on the problem of growth in fishes.

Mr. Joseph Miller spent the summer quarter at the Stone Laboratory in study and research.

Mr. Winston E. Dunham spent his vacation quarter at the University in study and research. In addition to his teaching duties during the year, Mr. Dunham has charge of our Apiary, which he has built up and keeps at a high degree of efficiency. Incidentally, Mr. Dunham exhibited his apicultural work at the State Fair last summer, and carried off far more than his share of the prizes. Altogether, he had sixteen prizes, including many firsts, and many sweepstakes.

THE FRANZ THEODORE STONE BIOLOGICAL LABORATORY

Elsewhere in this report reference has been made to the formal dedication of this laboratory made possible through the generosity of Mr. Stone. The new laboratory building was completed far enough to make use of practically all of it for work last summer, which gave much additional space that was greatly needed.

The laboratory building, as it now stands, is the finest, the most commodious of all the fresh-water laboratories in the country. We have planned here a graduate and research institution; and while we still admit a few high class undergraduates, these will be eliminated as rapidly as the space is required for research students.

There were in attendance last year forty-eight men and women, several of whom were engaged in personal research problems on the fauna of the region. Most of those present were graduate students working for advanced degrees. It was the largest and best group in the history of the laboratory.

After the close of the season, Mr. Julius F. Stone erected and furnished at his own expense an eleven-room cottage for the use of the Trustees and other University officials. This relieves the pressure of the dormitories and will enable us to continue the work of the laboratory uninterruptedly throughout the summer. Mr. Stone's generosity in this matter should not pass unnoticed.

Funds have been provided by legislation for the erection of a dining-hall which will not only make it easier to handle the living arrangements on Gibraltar Island, but will release a number of rooms for dormitory purposes in the Jay Cooke mansion. It is hoped that this building can be completed this autumn and be ready for use in 1930.

Funds have also been provided for the purchase of a new and larger collecting boat. Our present boat, which has been in use for three years, was an old fishing-boat, purchased for a small sum. It has given us excellent service, and, although no longer safe for more extended collection trips, it will still be useful for much of our work.

The plans are also completed for the coming Laboratory session which will extend through about the entire summer quarter. This is the first time this has been attempted, though some research students have always remained after the six weeks of the previous Laboratory session.

The Laboratory staff last summer consisted of the following:

Raymond C. Osburn, Ohio State University, Director.
Frederick H. Krecker, O. S. U., Asst. Director, and Professor of Zoology.
A. W. Lindsey, Denison University, Professor of Entomology.
S. R. Williams, Miami University, Professor of Zoology.
L. H. Tiffany, O. S. U., Professor of Botany.
M. E. Stickney, Denison University, Professor of Botany.

The staff will be the same during the coming summer, with the exception that Dr. Clarence H. Kennedy will return to our staff as a Professor of Entomology.

We have been collaborating closely with the research work of the Lake Erie Fisheries, conducted by the State Division of Fish and Game in cooperation with the U. S. Bureau of Fisheries. We have been able to offer certain facilities and apparatus for research work and will continue to cooperate in this way during the season of 1929. This work is important to the state and we feel that the Laboratory should do everything possible to assist in the research program.

It has been the policy of the Director to assist in every way in the solution of the fundamental problems of the fisheries of the Lake. To this end, studies on the occurrence, abundance, and distribution of the fishes, the study of their parasites and diseases, the basic food problems and the natural productivity of the Lake have been considered a logical part of our research program. These are not questions that can be easily and quickly settled, or the answer would have been found long ago; but by constant effort in every direction, it is hoped that the solution may be arrived at in time.

The Director of the Laboratory, Dr. R. C. Osburn, makes the following statements in his annual report under the heading, "Recommendations":

I have little to recommend at this time except that the Laboratory be continued the kind of support that has been accorded it in the past few years. The Trustees have been most liberal in their broad-minded policy of support in all necessary matters and the Legislature very generous in appropriations.

The improvement in our physical plant has already attracted the attention of higher-grade students and research men have begun to attend the Laboratory in pursuit of their problems. Nothing better could be desired, except that this phase of the work grow until it necessitates enlarging the plant and equipment.

Already we have reduced the offerings in types of work that may be pursued elsewhere and have eliminated all undergraduate work. It is our desire that the Franz Theodore Stone Biological Laboratory be known for its research opportunities. In this way only will it fulfil the vision of the Director and Staff and meet the wishes of the generous donor of Gibraltar Island as a site

for the Laboratory, that it be an institution for biological research for the benefit of humanity in the future.

The new Laboratory building is admirably adapted for work. The new boat already purchased will add greatly to our lake work. The new dining hall, for which provision is made during the coming summer, will complete the building plans for the present. Some special equipment will be necessary from time to time, according to the nature of research problems undertaken, but it is impossible to foresee just what may be required. When the call comes we hope to be able to meet it.

We now have the most complete laboratory of its kind inland and expect to justify the expenditures that have been made by the output of research and the better preparation of young men and women for both research and teaching.

Last year provision was made for the publication of a series of "Contributions from the Franz Theodore Stone Biological Laboratory." Two numbers have already been issued and others are in course of preparation. These contributions will do more than anything else to give the Laboratory the scientific standing it deserves and should continue to receive proper financial support. Incidentally the exchanges received for the contributions will add large numbers of scientific papers to the library of the Laboratory.

AGRICULTURAL EXTENSION SERVICE

Director, H. C. RAMSOWER

ADMINISTRATION

No changes of consequence have been made in the organization work during the year. Four district supervisors, each responsible for twenty-two counties, represent the office of the director in their respective districts for the administration of the entire extension program. They are in charge of such activities as the maintenance of personnel in the counties, county finances, program building, executive duties, and relationships with general farm organizations functioning in the counties. They are specifically in charge of agricultural agents and their programs in the field of agriculture. Associated with each supervisor in his district is a district leader of home-demonstration work and a district leader of 4-H club work. There are, therefore, three administrative officers in each quarter of the state jointly responsible for the three major divisions of the work; namely, extension work in agriculture, home economics, and boys' and girls' club work. A state leader of home-demonstration work and a state leader of boys' and girls' club work, who are responsible for state-wide development of their respective fields of work, report to the director of extension. Assistant state leaders in these two fields—and the state leaders as well—are responsible to the district supervisors when problems of individual counties are concerned.

Subject-matter specialists work in close cooperation with the various district leaders in the prosecution of their work in the counties. The supervisors and other leaders are of material help to specialists in the determination of their projects and in making contacts with agents and groups in the counties, as well as in other ways.

While the type of organization in effect has numerous deficiencies, and while our official nomenclature gets in the way occasionally causing some con-

fusion and disagreements, there seem to be but few problems that cannot be successfully met through a cooperative personnel.

PROFESSIONAL IMPROVEMENT OF STAFF MEMBERS

Nine members of the staff have been granted leaves of absence for study for varying periods during the academic year 1928-29.

J. E. McClintock, editor, has a leave of twelve months with pay and is studying at the University of Wisconsin.

George B. Crane, Secretary and Assistant Director, has a leave of twelve months and will study a half year at the University of Southern California. He will take his remaining six months later.

C. C. Lang, Assistant State Leader of Club Work, has a six-months leave and is studying at Cornell University. He will be away an additional three months at his own expense, thus completing an academic year.

Mrs. Blanche B. Bowers, Assistant State Leader of Home Demonstration Work, has been given a leave of six months with pay and will study at Columbia University.

E. R. Raymond, County Agricultural Agent, is on a six-month leave and is spending his time studying at the Ohio State University.

C. M. Hampson, County Agricultural Agent, has a leave of six months with pay, and will take an additional three months at his own expense. He is studying at Cornell University.

J. C. Hedge, County Agricultural Agent, also has a leave of six months with pay, and will take an additional three months. He is studying at the Ohio State University.

C. C. Caldwell, County Club Leader, has a leave of six months, which he is spending at the University of Southern California.

R. E. Cray, Poultry Husbandry specialist, was granted a leave of six months, but owing to the difficulty experienced in securing an additional specialist in this field to succeed G. S. Vickers, resigned, was unable to get away. He will secure his leave during the year 1929-30.

In addition to these regular leaves of absence which can affect only a few members each year, the following plans are being used to stimulate study on the part of staff members. A few members of the state staff register for seminar courses in the graduate school and pursue the study of some problem under expert guidance. A few others sacrifice summer vacations and attend a summer term which takes about five or six weeks of time. One such went to Columbia; another attended the Ohio State University.

At district conferences of extension agents, some meeting monthly, others every two months, definite study courses are followed under the direction of the district supervisors. This study period is a part of the program for such conferences. A textbook is selected by the group and definite assignments made each conference.

A library, supported by funds provided by the county extension agent association, is constantly being enlarged by the addition of desirable books. These are loaned to agents for extended use. Several copies of books in much demand are purchased.

A few extension agents have registered for night courses in a college within or adjacent to the counties in which these agents work. This has proven fairly satisfactory.

SOURCES OF REVENUE

For the year ending June 30, 1928, sources of revenue for the Extension Service included the following:

State Appropriation	$292,600.00
Smith-Lever Fund	176,106.99
Supplementary Extension Fund	32,668.07
Regular U. S. D. A. Fund	10,000.00
Clark-McNary Fund (Forestry)	1,500.00
Forestry Project	1,400.00
Institute Funds from Counties	15,400.00
County Agent Funds from Counties	212,100.00
Farm Bureau Funds	9,520.00
Total	$771,295.06

The State appropriation as listed was made by the legislature direct for agricultural extension. It is limited in its expenditure only by the state classifications under the two main headings "Personal Service" and "Maintenance." This has caused us no difficulty.

The Smith-Lever fund and the Supplementary Extension funds were used in accordance with the prepared budget and expended under the provisions of the Smith-Lever act.

The regular U. S. D. A. fund was applied as part salaries of the leaders and the county agricultural agents, boys' and girls' club work, home demonstration work, and farm-management projects.

The Clark-McNary fund was used to pay part of the expenses of the extension forester. The balance of his salary was paid by the Experiment Station on a cooperative arrangement, while Extension Service paid the traveling expenses.

The Institute Funds from counties were received from counties as their share of the expenses for the support of the state institutes. This money is provided each year according to the institute law, each of the 88 counties contributing $175.

The County Agent Fund from counties included all funds appropriated by county commissioners for the support of county extension agents. The money was used both to pay part of the salaries and for local expense in connection with this work.

The Farm Bureau funds as listed included only those funds that were contributed by the county farm bureaus as part salaries of county extension agents in cases where the public funds available were not sufficient to pay the salary and traveling expense.

PUBLICATIONS

The total of printed matter during the year under report aggregated 1,110,850 pieces. (The tables that follow will give the names and numbers of publications.) Mimeographed matter totaled 1,842,834 sheets, and multigraphed matter 289,210 sheets. These totals represent material gain over the output of the fiscal year 1926-27.

Sixteen new bulletins were printed during the year, and 8 bulletins were revised and reprinted. Of the 25 numbered circulars printed, 8 were new; the others were reprints, most of them with revisions. All the numbered cir-

culars were published for use by 4-H club members. Thirty-nine unnumbered circulars were published, 16 of them for the home economics extension office, the others for several agricultural departments.

The distinction between a bulletin and a circular in this report is this: circulars are printed for specific projects, as a rule, for distribution by the departments concerned; bulletins are printed for general circulation, and are announced on the semi-annual list of available publications. There are occasional exceptions to this distinction, of course. A bulletin usually gives a more complete treatment of a subject than does a circular.

Stimulating the demand for bulletins has not been the problem in Ohio. The problem has been, rather, printing enough bulletins to supply the demand and filling the orders for bulletins rapidly when handicapped by a sadly overcrowded mailing room. When an edition of ten or fifteen thousand copies of a new bulletin is exhausted within a year, without any special advertising by this office, it is plain that the main problem is not one of demand, but rather one of supply and intelligent distribution. The system now is to distribute both through county agents' offices and by mail from this office, but only on specific request. A list of available bulletins is prepared and distributed twice a year to a general mailing list of 30,000. Those wishing bulletins check the titles on this list, return it to this office, and the bulletins are sent. Of the cards sent most recently to the mailing list of 30,000, more than 10,000 were returned with requests for from one to fifty bulletins each. The average card of this form requests about 10 bulletins.

Typical samples of Ohio's extension publications have been exhibited for the past twelve years at annual meetings of the American Association of Agricultural College Editors. This material, entered in designated classes, has competed with publications from other state agricultural college extension services and experiment stations. For the past seven years the Ohio publications won the sweepstakes ribbon. This has not meant that all of the bulletins, news stories, posters, etc. have stood at the top of the list, but that the Ohio accumulation of first, second, and third-place ribbons was the greatest.

AGRICULTURAL COLLEGE EXTENSION SERVICE BULLETINS, 1927-28

No.	Subject	No. of Pages	Size of Edition
63	Poultry Feeding Stuffs and Rations	16	20,000
64	Soil Acidity	16	10,000
65	Selecting Hens for Egg Production	8	15,000
66	Just Kitchens	20	15,000
67	Milk, Its Importance as Food	24	15,000
68	Sheep Raising in Ohio	32	10,000
69	The School Lunch	16	10,000
70	Meat: Why, What and How?	16	5,000
71	About Roses	16	10,000
72	Feeding Dairy Cattle	32	15,000
73	Beautifying the Farm Home	32	10,000
74	Grafting and Budding in the Orchard	16	10,000
75	Mexican Bean Beetle	16	15,000
76	Control of Garden Insects and Diseases	32	15,000
77	Stitches, Seams and Garment Finishes	36	15,000
78	Pork Production in Ohio	48	10,000
	Total	376	200,000

Bulletins Reprinted

No.	Subject	No. of Pages	Size of Edition
54	Vitamins	8	10,000
57	Hog Houses and Equipment	24	10,000
59	How to Raise the Chicks	24	15,000
18–6	Home Canning of Fruits, Vegetables, and Meats	32	15,000
18–9	About House Plants	20	10,000
19–7	Poultry Houses and Equipment	40	12,000
21–6	Three meals a Day	12	15,000
21–8	Pruning Fruit Trees	36	7,500
	Total	196	94,500

Agricultural College Extension Circulars, 1927-28

No.	Subject	No. of Pages	Size of Edition
26	Sheep Club Demonstration	2	1,000
27	Baking and Jelly Making	24	4,000
28	Canning	24	3,000
29	Crops Club Record Book	10	5,000
30	Sheep Club Helps	8	1,000
31	Salads and Sandwiches	16	5,000
32	Personal Attractiveness	4	25,000
33	Flower Club Record Book	8	1,500
	Total	96	45,500

Circulars Reprinted

No.	Subject	No. of Pages	Size of Edition
1	4-H Clothing Rules	2	25,000
2	4-H Clothing Record Book	24	23,000
3	4-H Clothing Sewing Practices	20	14,000
4	4-H Clothing Undergarments	24	5,000
5	4-H Clothing School Dress	16	3,000
6	4-H Clothing Dress Design	16	4,000
7	4-H Food Rules	2	15,000
8	4-H Food Record Book	34	8,000
10	4-H Food Meal Preparation	40	6,000
12	4-H Girls' Room Club	2	3,000
14	Pig Club Rules	2	20,000
17	4-H Officers' Manual	8	6,000
18	Club Leaders' Manual	36	3,600
19	Health for Club Members	16	30,000
21	4-H Poultry Club Book	2	3,000
22	Poultry Record Book	12	6,000
24	Demonstrations	24	5,000
	Total	280	179,600

Circulars Not Numbered

Name of Publication	Total No. of Pages	Total No. of Pieces
Announcement of Farmers' Institutes	156	4,000
The Home Demonstration Agent	12	7,500
Correspondence Cources	16	5,000
The Farm Woman in Camp	8	5,000
Farm Accounting	24	1,500
Wool Finishes — Dem. I	6	4,500
Wool Finishes — Dem. II	6	4,500
Modish Finishes — Dem. I	8	5,000
Modish Finishes — Dem. II	4	5,000
Modish Finishes — Dem. III	2	5,000
The Dress that Fits and Suits — Dem. I	4	2,000
The Dress That Fits and Suits — Dem. II	4	2,000
The Dress That Fits and Suits — Dem. III	4	2,000
Meat and Meat-Like Dishes — Meeting II	12	4,000
Meat and Meat-Like Dishes — Meeting III	8	4,000
Feeding the Family — Meeting II	16	4,000
Feeding the Family — Meeting III	6	4,000
Vegetable Cookery — Meeting II	12	9,000
Vegetable Cookery — Meeting III	8	9,000
Men's Ten-Acre Corn Project	4	3,000
Ten-Acre Wheat Project	4	2,000
Facts About the Cost of Market Milk Production in Ohio	4	5,000
Standard Ratio Fertilizers	4	20,000
Elevator Manager's Aid	16	5,000
Facts About Egg Prices	4	5,000
Trends in Poultry and Egg Production	4	5,000
The Ohio Ton-Litter Club	2	2,500
Bring Back Clover	4	2,500
Timely Economic Information for Ohio Farmers: Nos. 1 to 5	20	14,000
Grow Healthy Pullets: Nos. 1 to 4	16	23,000
European Corn Borer: Nos. 13 and 14	12	40,000
Total	410	214,000

Publications Other Than Bulletins and Circulars

Name of Publication	No. Issues	Total No. of Pages	Total No. of Pieces
Farmers Institute Programs (4 pp.)	352	1,408	211,200
Extension Service News (8 pp.)	11	88	130,000
Poultry Calendars (13 pp.)	1	13	4,000
Poultry Records Books (42 pp.)	1	42	1,400
4-H Club Congress (24 pp.)	1	24	1,500
Farmers' Week Programs	1	32	8,000
Pastors' School Program	1	6	19,350
Misc. Small Printing, Farmers' Week	13	52	19,350
Total	381	1,665	376,250

DISTRICT SUPERVISORS' WORK AND COUNTY AGRICULTURAL AGENT PROJECT

ORGANIZATION OF EXTENSION WORK IN COUNTIES

Work in the counties has continued along the same lines as in former years. The county *farm bureaus* through which official contact with all counties is made are in only a fair condition in regard to membership and finance. The total membership in the state is about 28,500. In the northeast district, covering 22 counties, the total membership is 8,024, an average of 364 per county, ranging from 200 in the lowest to 593 in the highest. In the southwest district, 22 counties, there are 9,166 members, an average of 416 per county, ranging from 220 in the lowest to 840 in the highest counties. Membership, however, in the state as a whole has been on the increase in the last year or so. In spite of low membership and hence of finance from this source, county farm bureaus have given excellent support to the extension program.

Cooperation with *Pomona* and subordinate granges has been quite satisfactory during the year. There seems to be a growing desire on the part of these groups to utilize the services of coming extension agents and specialists. Extension Service is glad to render such assistance as it can. *Granges* in many counties have been strong factors in maintaining and increasing extension appropriations and in otherwise supporting the work.

COUNTY APPROPRIATIONS

In spite of the unfavorable economic situation, county appropriations for extension work have shown a healthy increase each year for the past several years as shown by the following figures.

1924-25 total county appropriations	$167,850.00
1925-26 total county appropriations	191,530.00
1926-27 total county appropriations	193,630.00
1927-28 total county appropriations	212,100.00
1928-29 total county appropriations	199,886.00
1928-29 actual appropriation plus emergency fund	227,886.00

The amount for 1928-29 was that actually sent in to the state treasurer. To this should be added approximately $28,000 which was already appropriated by counties but could not be sent in because of the legal difficulties recited above. For the purpose of comparison with previous years, therefore, the second amount for 1928-29 must be used.

PROGRAM BUILDING

The method of developing programs in communities and in counties varies considerably. In counties where the work is well established and where well-planned programs have been in operation for some years, the task each year is to strengthen the plan in its weak points, eliminate unsatisfactory projects, take on new ones, expand old ones. Each year finds a continuity of basic projects thus adding to the value of the work done which was not evident in county programs a few years ago.

Emphasis is still placed upon the community program, and local community groups are given opportunity to participate in the determination of programs. Local leaders, in increased numbers each year, are taking responsibility for definite phases of the work adopted by the local people.

In all districts during the year an especial effort has been made to assist extension agents in a more complete analysis of economic conditions in the various counties and to help them get a group of basic information necessary in satisfactory program determination. This has been with the assistance of specialists in rural economics. The supervisor and these specialists go into the county and spend a day studying various aspects of the county's agriculture. Long-time trends of the rural and industrial development of the counties are considered and the programs adapted to basic changes.

There is a growing tendency for special-interest groups such as dairymen and fruit growers to come together and plan programs in a county-wide manner. A program thus planned to suit the common interests of the group is carried through with a high percentage of accomplishment.

SOME SIGNIFICANT FIGURES FOR 1928

A brief summary of some of the tangible results of extension work is always interesting. Many of these results cannot be accurately reported; yet, by and large, they stand as fairly reasonable measures of the accomplishment in various projects. As compared with similar figures in the report for 1927, some are larger and some smaller, yet considering that a total of 78 counties were included in the 1928 report and 82 in the 1927 report, substantial progress is indicated.

SOME SIGNIFICANT TOTALS FOR 1928

County Agricultural Agent Work

	Number
Counties with agricultural agents	78
Communities in these counties	1,435
Communities where program was cooperatively worked out with the people	1,111
Adult and junior leaders helping	14,878
Leader-training meetings	1,051
Farm visits made by agents	31,290
Office calls	102,852
Telephone calls	78,351
News articles prepared for the press	12,698
Bulletins distributed	176,120
Method and result demonstrations	8,769
Attendance at these meetings	165,435
Other extension meetings	6,351
Attendance at these meetings	463,778
Total number of different farms adapting improved practices in all projects except marketing	134,082

Home-Demonstration Work

	Number
Counties with home demonstration agents	20
Counties carrying home economics projects	68
Adult township or community project leaders	2,922
Women reached through leaders	36,651
Girls in 4-H club work given help	20,032
Days assistance given by project leaders	6,263
Women reached in clothing work	14,514
Improved practices adopted in clothing work	7,282
Women reached in home management work	3,576
Kitchens rearranged, water systems installed, etc.	53
Families reached in nutrition project	8,937
Homes adopting recommended health practices this year	460

4-H Club Work

Number of counties in which club work was organized	83
Number of different club projects carried	35
Number of different clubs	2,446
Total boys enrolled	7,519
Total girls enrolled	24,089
Total of both	31,608
Percentage of completions	82.2
Club boys and girls entering college	490
Number of volunteer leaders	2,904

Publications

	Number	Total Edition
New bulletins	16	200,000
Revised bulletins	8	94,500
Circulars on club work	8	45,500
Revised circulars on club work	17	179,600
Other circulars	39	214,000
Other publications		376,250
Sheets mimeographing and multigraphing		2,132,044
Maps, posters, drawings completed		2,479
Photographs turned out		3,741

Farmers' Institutes

Number of state-aid institutes	348
Number of independent institutes	456
Total number of institutes	804
Total attendance—all institutes	716,818
Average attendance per session	191

Farmers' Week

Total attendance	6,628
Total number of men	4,826
Total number of women	1,802
Counties represented	78

The Director reviews the work of the Extension specialists by setting forth a summary account of the projects carried through the year; namely,

Project in Farm Crops
Project in Agricultural Engineering
Farm Forestry Project
Project in Horticulture
Projects in Animal Husbandry
Project in Poultry Husbandry
Project in Vegetable Gardening
Projects in Farm Management
- Teaching Farm Accounting in County Schools for Men
- Teaching Methods of Recording Cost Production of Livestock and Crops
- Assisting County Agents in Analyzing Data for Formulating Programs
- Teaching Economic Background of Price Changes
- Supplying Extension Agents with Fair Exhibits

Project in Rural Sociology
Project in Soils
Projects in Entomology
Project in Plant Pathology
Project in Dairying
Project in Marketing
Farmers' Institutes
Farmers' Week

COLLEGE OF LIBERAL ARTS

Dean, W. J. SHEPARD

ENROLLMENT

The enrollment for each of the four quarters together with the voluntary withdrawals was as follows:

Quarter	Summer	Autumn	Winter	Spring
Arts	430	2,429	2,246	2,015
Arts-Educ.	36	107	99	98
Total	466	2,536	2,345	2,113
Withdrawals — Men	9	51	71	34
Withdrawals — Women	2	17	18	18
Total	11	68	89	52

A comparison of these figures with those of the preceding year shows increases in the Summer, Autumn, and Winter quarters over the corresponding quarters of the year 1927-28 of 63, 60, and 39 respectively and a decrease in the Spring Quarter of 4, making a net increase for the year of 158.

The annual honor list, published in October, 1928, gave a total of 68 persons who had won the honor distinction, as against 79 for the preceding year. Of these 68, 38 were men and 30 were women. The names added at the subsequent convocations were 27 in number, making a total of 95, the total for the previous year being 106.

The Convocation honors were distributed throughout the year as follows:

Summer 1928	Autumn 1928	Winter 1929	Spring 1929
3	1	1	22

making a total of 27, which is the same number receiving this distinction during the preceding year.

DEGREES

The total number graduating from the College during the year was 358, distributed as follows:

Degree	Summer 1928	Autumn 1928	Winter 1929	Spring 1929	Total
B.A.	58	17	31	233	339
B.Sc.	1			18	19
	59	17	31	251	358

As compared with the preceding year this is an increase of 41.

DISMISSAL, PROBATION, AND REINSTATEMENT

In order to maintain the standards set by the University, our office is involved in a large amount of work in connection with deficient students. During the year, 328 students were dismissed. The following table shows the

distribution of these dismissals by quarters and by various faculty rules which apply.

Rules by which students were dismissed	Summer	Autumn	Winter	Spring	Total
On probation	6	40	78	37	161
Two-thirds Rule	12	76	20	25	133
Nine-Quarter Rule	1	4	6	14	25
Twelve-Quarter Rule	.	..	1	2	3
Probation more than twice	.	1	..	3	4
Special Action	.	1	..	1	2
Total	19	122	105	82	328

It will be observed that about half of the total number of dismissals fall under the probation rule. This rule operates to eliminate students whose scholarship is low continuously through two quarters. Of the total number of dismissals, 133 came under the two-thirds rule which came into force for the first time this year. Statistics for previous years are not available, nor are statistics by classes (freshmen, sophomores, juniors, and seniors). There has been, however, evidently a considerable increase in the number of dismissals during the past year over previous years.

During the year there was a total of 491 students placed on probation, of whom seven were Arts-Education students. These cases of probation were distributed by quarters as follows:

Summer	Autumn	Winter	Spring	Total
26	232	135	98	491

Our statistics for reinstatements do not cover exactly the period (July 1, 1928-July 1, 1929) to which the dismissal data apply; it is, however, substantially the same. For the period September 17, 1928, to August 21, 1929, petitions for reinstatement to the number of 234 were received. Of these 101 were declined, 48 were granted unconditionally, and 85 were granted conditionally upon passing the book examination. Of the 85 who were granted this conditional reinstatement, only 52 took the examination, of whom 28 passed and were reinstated and 24 failed. The total number of reinstatements was thus 76. The policy has been to grant reinstatement in the case of first-quarter freshmen who have been dismissed under the two-thirds rule fairly frequently. We have found that the use of the book examination as a test for reinstatement is extremely serviceable. The student is required to pass an examination on three moderately substantial textbooks in American History, Psychology, and Ethics. It is a test of the student's ability to do university work. Our experience through a number of years with this device has been so successful that it is arousing interest in other universities and is just now being introduced in the University of Wisconsin.

AIMS AND OBJECTIVES OF THE COLLEGE OF LIBERAL ARTS

No formulation of the aims and objectives of the College of Liberal Arts can ever be definite. The purpose which we envisage is a changing, evolving, dynamic purpose. It is of value, however, to attempt to state at least tentatively what we consider to be our aim and purpose. This we have done on page 10 of the College of Liberal Arts Bulletin, as follows:

"The College of Liberal Arts has for its objective the provision of the means to a liberal education. The primary purpose of a liberal education is not the accumulation of a mass of factual information, but the development of intellectual proficiences and capacities, the acquisition of strong and definite intellectual interests, the achievement of intellectually grounded attitudes and points of view. Among the specific attainments which a liberal education should secure are an open mind, freed from bias and prejudice; an eagerness for truth, and a willingness to follow it wherever it may lead, regardless of preconceived notions; a critical skepticism which insists upon examining the basis of every belief and testing every proposal before giving it adherence; the ability to recognize a problem, to analyze it into its several elements, and to perceive its various ramifications; the power to discern relationships and to bring an entire situation into clear perspective; a deep respect for human institutions and conventions, based upon an understanding of the processes of social evolution, together with a fearless willingness to attack them when they have ceased to serve a useful purpose, based upon a comprehension of the changing and dynamic character of social forms; a keen appreciation of the emotional and aesthetic values of life with intelligent standards for judging them; and the ready use of the spoken and written language as instruments of communication.

"The College seeks to interpret modern civilization to the youth who are to play an active rôle of leadership in the world of today. The liberally educated man may not be a specialist in any field, but he must at least know sufficient of the methods, the problems, and the criteria of science to understand the scientific spirit; he must be sufficiently acquainted with the great movements of history and the social and economic questions of our own time to have developed a social outlook on life; he must have enough of an apprehension of the currents of human thought and the problems of human conduct to have developed for himself a working scheme of values; he must have acquired from reading, study, and experience an appreciation of the best in literature and art; and he must be able to communicate in an intelligent fashion with his fellows."

We believe that the College of Liberal Arts should occupy a central position in the University. It should contribute an atmosphere and a spirit of culture, breadth of vision, of idealism to the entire University. It should serve the professional schools by offering courses in fundamental subjects through departments whose primary interest is cultural and scientific and not professional or utilitarian. The College as at present organized is not in a position to perform this function fully. The transfer of some of the science departments to the Arts College is a welcome prospect. Particularly in the fields of the sciences is strengthening needed. Science is too essential an element of modern civilization to be unrepresented in college which has liberal education for its aim and purpose.

THE CURRICULUM

The problem of the curriculum is one of the major problems of education. The aims and purposes of the College of Liberal Arts can be achieved only through a satisfactory curriculum. During the past year considerable attention has been given to this problem by a Committee appointed to consider the question of organizing the College on the basis of Junior and Senior Divisions. This latter question is inextricably connected with the curriculum. A sharper

differentiation between lower division (Freshman and Sophomore) and upper division (Junior and Senior) work has appeared desirable. The University Faculty has granted the request of the Arts Faculty that a 1.9 point ratio be required for admission to the Senior Division, and that a 2.2 point ratio be required on work done in the Senior Division for graduation. These scholarship requirements will become effective for the class entering June, 1929, and all subsequent classes. With these standards as a basis the Faculty, through this Committee, has given attention to the problem of revising the Freshman-Sophomore group requirements, and of effectuating a clearer distinction between 400 and 600 courses. A beginning was made in connection with the announcement of courses in the 1929-30 College of Liberal Arts Bulletin toward a reduction of the number of 400 courses, which in some departments have been obviously too numerous. The importance of a continuous study of the curriculum has led to the substitution of a standing Committee on Curriculum for the special Committee above mentioned. It is expected that during the coming year some rather significant changes in the course of study will be effected.

Combination Curricula.—Beginning with June, 1929, students will not be permitted to enter upon the previously offered combination curricula in Arts-Agriculture, Science-Medicine and Science-Dentistry. The first of these combination curricula has been abolished by mutual agreement between the two colleges because of the failure of students to elect it. The other two curricula have been abolished by mutual consent of the two colleges involved in each case, because altered requirements had resulted in such an approximation to the Arts-Medicine and Arts-Dentistry curricula respectively that they were practically the same. This will involve the abandonment of the B.S. degree by the Arts College after those students now entered upon the Science-Medicine and Science-Dentistry curricula have been graduated.

Survey Courses.—In addition to departmental offerings, several courses are offered by the College, outside of any department, as Survey courses. For some years a "Survey of Freshman Problems," carrying one hour's credit and required of all freshmen in the College of Liberal Arts, has been given by the Dean. This course was intended to serve as an orientation to the University and to university problems. With the definite establishment of Freshman Week the need of this course has largely disappeared. It has, therefore, been abolished. An elective Survey course in "General Literature," five credit hours, "exclusively for Juniors in the College of Liberal Arts not majoring in English," will be offered for the first time in the Autumn Quarter, 1929. All seniors are required to take either a Survey course in "Foundations of Contemporary Civilization" or "Development of Modern Science," five credit hours. Those students who are majoring in the natural sciences must take the former; those majoring in the humanities take the latter. This requirement is an experiment which has been in operation two years. It is too early as yet to pronounce upon it definitely. There is also an elective Survey course in "Science Methods and Ideals" given by Professor W. E. Henderson which is serving a useful purpose.

Honors Courses.—The development of a more effective system of honors courses is definitely engaging the attention of the College. Some departments now offer so-called "honors courses," in which qualified students whose scholarship records are high are permitted to pursue special interests untrammeled by

the routine and requirements of the ordinary course. These have certainly proved of value, but they clearly do not go far enough. An organized opportunity for gifted students to pursue, during their junior and senior years, a broad program of reading in the general field of their interest; to make investigations of particular problems; to engage in frequent and exciting discussion with their fellows; to meet a few members of the faculty, not on terms of "teacher and pupil," but on terms of fellow-students; and to do a large amount of writing with provision for sympathetic but vigorous criticism by their faculty "fellow-students," and to be freed from the annoying requirements of hours, credits, points, courses, etc. which characterize our present standardized curriculum, but be held to a high standard of accomplishment through a general examination to be given at the conclusion of the two-year period—such is the conception which is taking form in the minds of a good many members of the Faculty as to what an honors course should be. Definite proposals to achieve this ideal may be expected in the near future. Such a program will involve additions to the budget. Any departure from mass production is likely to prove expensive.

THE TEACHING PROBLEM

Much attention has been given throughout the year to the development of more effective methods of instruction. The problem obviously varies with different departments. There has been interchange of experience by the chairmen of departments and a considerable amount of discussion by the Dean and Junior Dean with individual chairmen and professors in charge of elementary work.

In general the reduction of the size of sections of elementary courses to twenty-five seems desirable, and considerable progress has been made in this direction. In certain departments, however, particularly History and Political Science, there is a definite doubt with respect to the advantage of small sections. Indeed there seems to be perhaps an advantage in these subjects in having as many as fifty to sixty students in a section.

The desirability of a much larger amount of personal contact between teacher and student is recognized by every one. The present teaching load makes very much of this impossible. But experiments with certain sections can be undertaken, and it is expected that something along this line will be done during the coming year.

Whether the supervision of teaching, particularly of the junior members of a department, is desirable or practicable is a question which has been discussed. The experiences of different departments vary. There seems, however, to be a function here which ought to be performed and which must be undertaken if the quality of teaching is to be generally improved. Should this function be undertaken by the Dean or Junior Dean, or should it remain within the Department? On this there seems to be some difference of opinion. It is the opinion of the Dean and Junior Dean of the Arts College that the function of supervision of teaching must remain with the Department. The administrative officials of the College should be vitally interested in good teaching. They should be in constant touch with each department with reference to the teaching technique, teaching facilities, and qualifications of members of the teaching staff. They should lend every possible assistance in improving the quality of the work done. But, under ordinary circumstances,

they should not undertake the specific work of class visitation and personal criticism. This, we believe, is and must remain within the province of the department.

THE FACULTY

The death of Professor John W. Bownocker on October 20, 1928, deprived the College of Liberal Arts and the University generally of a much beloved teacher. A graduate of Ohio State University in the class of 1889, he did a part of his graduate work at Yale and the University of Chicago, but completed it and took the D.Sc. degree from this University in 1897. He had been a teacher in the department of Geology at Ohio State University continuously since 1895, during much of which time he was head of the department. Since 1906 he had also been State Geologist. His contributions to the science of Geology, particularly in the field of the mineral resources of Ohio, were noteworthy. Professor J. E. Carman has served as Acting Chairman of the department during the year and Dr. W. A. P. Graham has carried Professor Bownocker's courses under a temporary appointment of Assistant Professor, which has now been made permanent.

Professor F. W. Coker, of the Department of Political Science, received late in the spring a most flattering call to the Cowles graduate professorship of government at Yale University. It was an unusual opportunity to share in the development of a broad program of graduate and research work, as well as to have a decisive hand in the building of a strong department of political science. His decision to accept this call constitutes a serious loss to the department, the College, and the University. Professor Coker has been a member of our Faculty since 1911. No attempt has been made to fill this vacancy for the coming year; the work will be provided for satisfactorily through a temporary arrangement. It is hoped that during the year we shall be able to obtain an able and distinguished political scientist for this professorship.

The announcement at the end of the Spring Quarter that Professor W. H. Siebert, who was made Research Professor of History on Nov. 5, 1925, would discontinue teaching and devote himself to research for the future makes it necessary to provide for his courses. Temporary arrangements will be made for the coming year, but it is expected that the appointment of an additional member of the history department of professional rank will be made during the year.

The appointment of a professor in the department of German to fill the vacancy occasioned by the resignation of Professor Boehme in the Spring of 1928, has not yet been made. It is confidently hoped that this position may be filled during the coming year.

During the year 1928-29, Professor Joseph A. Leighton of the Department of Philosophy has been on leave of absence, teaching in the University of Southern California. In his absence, Professor George H. Sabine has served as acting head of the department. Professor Leighton's work has been satisfactorily taken care of by other members of the department and an additional assistant. He will return to us at the beginning of the autumn term. Professor Arthur C. Cole of the History Department has been on leave of absence at the University of Wisconsin during the year. His courses have been carried on by Professor Charles H. Ambler of the University of West Virginia. Professor Cole has already returned and is on duty in the present Summer Session.

Assistant Professor Paul H. Clyde, also of the History Department, has been on leave of absence at Stanford University during the year. His work has been carried by Acting Assistant Professor Bernhardt Nordmann. Professor Clyde will return for the Autumn Quarter.

The Department of Romance Languages will be greatly strengthened by the appointment, effective with the Autumn Quarter, of Professor R. E. Monroe, who will have general supervision of all elementary courses in both French and Spanish. Professor Monroe is a man of broad culture and experience, who is admirably equipped for this particular work. His appointment is directly in line with the university policy of emphasizing the Freshman work.

The appointment of Assistant Professor Lester K. Born to the department of Classical Languages, effective at the beginning of the Summer Quarter adds a young scholar to our Faculty who has already won distinction, and whose special equipment will greatly strengthen this department.

THE COLLEGE ADMINISTRATION

I should like to take this opportunity to express my sincere appreciation of the high character of the service rendered by Professor W. H. Siebert, as Acting Dean, during the period from 1926 to 1928. Particularly should be mentioned the excellent staff which he selected. Several resignations and provision for some expansion necessitated the appointment of a number of new members during the summer of 1928. These appointments were made with much wisdom.

The staff, at the opening of the Autumn Quarter, 1928, was new and as yet unacquainted with the work of the office. The Dean arrived on the ground only on September 10. He found a new Secretary, Mr. Howard Hamilton, a new Assistant to the Dean, Miss Roberta Abernethy, and two new clerk-stenographers of the three in the office. Mr. J. C. Troutman, the newly appointed Junior Dean, who had been the Secretary of the College for the previous months, and one stenographer were the only members of the staff who were not quite new to their duties. That the College work was not thrown into serious confusion was due to Mr. Troutman's willingness and ability to throw himself into the breach and to serve as instructor and counselor with respect to every aspect of the work of the College. Because of the inexperience of other members of the staff and also because of insufficient staff, he has been compelled to devote most of his time and energy throughout the year to administrative duties, and has not been able to give the attention to the larger aspects of the educational problem in the freshman and sophomore years, which presumably is the primary function of the Junior Dean.

The problems of the several colleges in the University vary considerably, and those of the College of Liberal Arts are perhaps particularly different from those of the professional schools. The non-professional and flexible character of the curriculum in this College necessitates a far greater amount of student guidance than is the case where objectives are fixed and courses of study predetermined. We believe that we are rendering a real service in providing our students with ample opportunity for consultation concerning their curricular problems. When students learn that sympathetic and friendly assistance is to be had at the College office on matters concerning their courses of study, they are likely to seek advice also upon non-curricular problems. Student interviewing constitutes a very large part of the work of our staff.

Dean Troutman has devoted himself with rare enthusiasm and untiring interest to the freshmen and sophomores. The demands upon him by students who come to the office, and who usually are those who are having trouble with their work, have been so heavy as to preclude very much attention to the better students who have not fallen into difficulties. A Student Adviser is to be added to the staff for the coming year who will largely serve as an assistant to the Junior Dean in this work with freshmen and sophomores.

As Secretary of the College, Mr. Howard Hamilton succeeded Mr. Troutman when the latter became Junior Dean, July 1, 1928. Mr. Hamilton holds the A.B. degree from the University, and has in addition had a legal training. He was on the staff of the Business Manager of the University for three years, where he acquired a wide knowledge of the business operations of the University. This, together with his wide campus acquaintance, has proved a very valuable asset. Mr. Hamilton has been chiefly engaged with the problems of juniors and seniors. He has shown marked ability in this work, and possesses the confidence of the students who come under his supervision. Mr. Hamilton is considerably assisted in the advisory work with juniors and seniors by Miss Roberta Abernethy, Assistant to the Dean.

On February 1, 1929, Mrs. Romaine Hamilton was added to the staff of the College office, serving as Secretary to the Dean.

The Staff thus consists of the Dean, the Junior Dean, the Secretary, the Assistant to the Dean, the Secretary to the Dean, and three stenographers, Miss Margaret Smith, Miss Esther Waddell, and Miss Bessie Workman. Additional staff will be necessary, if the College office is to meet the real opportunities for service which are increasingly being thrust upon it. We are asking for a Student Adviser, who will serve as Assistant to the Junior Dean, and an additional clerk for the next year. We have really been overworked this year, and while increased experience may lighten the load to some extent, there are a number of additional lines of work which we feel ought to be undertaken and which we cannot undertake without additional staff. Ours is personal work; the question as to how far the University ought to undertake an expanded program of personnel work is one which should be seriously considered in the near future.

A Placement Service.—One particular service which has been practically forced upon us this year is that of assisting our seniors who are about to graduate to find positions. We have been able to do very little indeed in this field, being quite without experience, connections, or equipment. The problem is obviously entirely different from that of placement in a professional school, where students have prepared for a particular vocation. Graduates of the College of Liberal Arts have widely diverse interests and qualifications and are not usually definitely prepared for any particular calling. We have this year established connections with a number of large corporations and have placed several of our graduates in very good positions. The opportunity to develop this service merely awaits additional assistance in our office. What little we have done has been very much appreciated. There is a definite evidence of a large need. The question of whether it is a wise policy for each college to develop its own placement service, or whether there should be a strong university bureau which would carry all placement work, is one which perhaps ought to engage the attention of the President and the Board of Trustees.

THE DEPARTMENTS

1. *Astronomy.*—The introduction of laboratory work in this department has resulted in a considerable decline in enrollment. The department has urged that Astronomy be included as one of the alternative inorganic science group requirements. This request will be considered in connection with the revision of these requirements which the Committee on Curriculum is proposing to recommend to the Faculty.

2. *Classical Languages.*—As mentioned elsewhere, the work of this department will be greatly strengthened by the appointment of Assistant Professor Born, who replaces Instructor Iwanicki, who has resigned to pursue his graduate studies. The Chairman of the Department has asked for additional assistance in the Summer Session for 1930. This request is abundantly justified on the basis of the enrollment in the department this summer. There are about seventy-five students, of whom at least three-fourths are graduate students.

3. *English.*—The change in the content of course 433, now to carry the number 430, from American Literature to English and American Literature is significant in view of the very large number of students who take this course. It is believed that this change is a definite betterment. The growth of the work in Public Speaking and Dramatics raises the question of whether these subjects should continue indefinitely to be attached to the Department of English. This question will be considered during the course of the coming year in connection with the related problems of phonetics and linguistics.

4. *Geology.*—During the entire academic year Professor Carman has served as Acting Chairman of the Department of Geology. He has demonstrated a real grasp of the problems of the department and a vision as to its possibilities. He has the complete confidence of his colleagues. It is anticipated that under his direction as permanent Chairman the department will make substantial progress. The need for additional equipment is serious and it is proposed to allocate a large part of the appropriation to the College to meet the pressing needs of this department. The admirable review of the work and requirements of the department contained in Professor Carman's report is especially commended to the attention of the President and the Board.

5. *German.*—The appointment of Professor Friedrich Bruns, of the University of Wisconsin, for the Summer Session, 1929, and the prospect of securing Professor August C. Mahr of Leland Stanford for the Spring Quarter 1930 are to be noted in connection with the German department.

6. *History.*—For the present Summer Quarter, Assistant Professor W. L. Dorn of the University of Wisconsin, and Professor F. A. Shannon of Kansas Agricultural College have been secured. The increase in enrollment in this department, and especially the increase in graduate students, during the last few years has been especially noteworthy. The offerings in this department have been entirely revised during the past year. This is in accordance with the policy of the College to differentiate more sharply between lower class and upper class work. As presented in the 1929-1930 Bulletin, the history courses, in organization and relationship to each other, constitute a model which some other departments might profitably study. Elsewhere we have mentioned the return of Professor A. C. Cole and Assistant Professor Paul H. Clyde, who have been on leave of absence during the past year. The methods by which the large elementary classes are conducted, the organization and

supervision of sections, and the experimentation which is being carried on looking toward improvement of teaching are indications of a very live interest in this department in the teaching problem.

7. *Philosophy.*—The Department, College, and University will welcome home Professor Joseph A. Leighton, who has been on leave of absence during the past year at the University of Southern California.

8. *Political Science.*—We have already referred to the serious loss occasioned by the resignation of Professor F. W. Coker. Assistant Professor Harvey W. Walker came to us in this department from the University of Minnesota this year and has already proved himself a most valuable addition to the department and to the Faculty generally. His special field is administration. He has not only carried courses in this field most satisfactorily, but he has been able to render great service to the Legislature and the State Administration, who have utilized his expert knowledge freely. He has been given an important position on the staff of the Director of Finance.

9. *Romance Languages.*—The appointment of Professor R. E. Monroe for next year, who will have general supervision of all elementary work in French and Spanish, has already been noted.

10. *Phonetics.*—The distinguished work which Associate Professor G. Oscar Russell has been doing in the field of Phonetics has attracted wide attention. This work has been carried on under the Romance Language Department, though Professor Russell has had this year the special designation "Director of Phonetics Laboratories." The work has no essential connection with Romance Languages, and it is now proposed to separate it from that department and to give it an independent status. The problem of how best to organize this work in the future must be carefully studied during the coming year, together with the cognate problems of Linguistics, Public Speaking, and Dramatics. All of these deal with human speech, and the possibility of the creation of a Department of Speech in which these several lines of work would be pursued deserves serious consideration.

LANGUAGE BUILDING

During the year the remodeling and extension of the old Chemistry Building has proceeded with every prospect that the work will be completed in ample time for occupancy by the opening of the Autumn Quarter. The language departments (Classical Languages, German, English, and Romance Languages) will occupy this building and will enjoy here facilities and comforts unexcelled on the campus. Provision for numerous commodious offices will permit developing the personal conference as an instrument of education in these fields in a way that has been quite impossible under the crowded and inadequate conditions hitherto obtaining for these departments. There are also really splendid laboratory facilities for the work in phonetics, which is expected now to expand into all the language fields.

COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean, W. C. WEIDLER

STUDENT ENROLLMENTS

The growth of the College, like that of other collegiate Schools of Business, was very rapid during the early years of its existence. Within the past two or three years, however, the rate of growth has decreased somewhat.

The enrollment by quarters for the past year and also for the year 1927-28 was as follows:

	Summer	Autumn	Winter	Spring
1927-28	231	1,770	1,668	1,497
1928-29	221	1,827	1,672	1,556

Degrees granted by quarters were as follows:

	Summer	Autumn	Winter	Spring	Total
1927-28	37	20	25	148	230
1928-29	34	27	27	117	205

This slightly reduced rate of growth is regarded as a fortunate circumstance, since it creates a favorable setting for the development of a more mature teaching staff and an individualized treatment of the student body. With some relief from the pressure of caring for a rapidly increasing group of students, we should be in a position to retain staff members of promise and distinction and to add individuals possessing similar qualities.

THE NEED FOR AN EDUCATIONAL INVENTORY

The rapid growth of the College impresses us with the necessity of undertaking a careful inventory of our accomplishments, courses, curricula, and educational methods.

During the past year the College staff has held two luncheon meetings each month for the discussion of various educational problems. In addition to discussions led by our own staff members, certain individuals from the outside have addressed the staff on educational aims and objectives. A number of College committees have been at work. For example, a committee has given consideration to the College mathematics requirements and has submitted a report recommending that a solution be arrived at by carefully analyzing the mathematical needs of our advanced-course work and of various business occupations. It is our hope that the next year may see such a study completed and that this may result in the organization of a mathematics course or courses better adapted to the needs of the College.

Considerable attention has been given to foreign language requirements. Pursuant to this study, inquiries were addressed to a considerable number of our graduates with the purpose of determining their attitude toward compulsory foreign language study.

Preliminary study has been given to the necessities of the brilliant student. The College Faculty has adopted the report of a committee providing

for the publication of an annual honors list and for the granting of degrees with distinction. Our plans provide for the installation of this program during the year 1929-1930.

It is recognized that the above examples are simply the initial steps in the general inventory referred to above. It is our judgment that all courses and curricula should be subjected to a careful appraisement and that this appraisement should involve a careful analysis of the necessities of the various fields of business activity in which our graduates are employed. Such a program must necessarily extend over a considerable period of time and will involve considerable expense. The luncheon discussions referred to above are valuable in creating a setting favorable to such an inventory.

In this general survey or inventory, it is not proposed that we consider merely the vocational necessities, but that we bear in mind the needs of our students as social beings. In addition to making a living, they must also be prepared for their duties and responsibilities as citizens. The inventory proposed must, of necessity, be broadly interpreted, and our training program must prepare students for life in its broader aspects.

THE TEACHING STAFF—ELEMENTARY INSTRUCTION

In the field of elementary instruction, we now have the most adequate staff that has ever existed since the organization of the College. The staff is sufficiently large to permit us to personalize the relations of students and teachers. It is our plan to continue the practice of conducting interview sections. Our program of interview sections has met with a gratifying response from both students and teachers, and our plans for the next year contemplate an increased number of such sections.

In accordance with the general University program to increase the maturity and effectiveness of elementary instruction, the College has substituted more mature for less competent instruction. Our elementary teaching staffs for the next year are made up almost entirely of individuals of considerable teaching experience. It is our thought that elementary courses are entitled to the same share of mature instruction as are courses in any other area. As a result, many professors and assistant professors are now teaching freshman and sophomore work.

Perhaps one of the most important developments has been the changed attitude toward elementary instruction on the part of our teaching staff. The work has been given a new dignity, its importance is now clearly recognized, and our teaching personnel is committed to a program of strengthening the work in this area.

THE JUNIOR DEAN

The work of the Junior Dean, while tentative and experimental, convinces us of the great possibilities of the office. Large numbers of students have sought this office for counsel and guidance, and the Junior Dean has taken an important place as a member of the College Executive Committee. In addition to valuable service in interviewing students, the Junior Dean has fostered the development of the interview sections mentioned above. His activities in this connection relate to advice to the instructors conducting these sections and the preparation of student personal history data for use by teachers in giving an intelligent direction to their student conferences.

In addition to these activities, the Junior Dean has made many statistical studies relating to such matters as probations, dismissals, and the effects of certain rules and requirements upon student accomplishments. Other activities have taken the form of visiting the classes of younger staff members and of encouraging professors in charge of elementary courses to undertake class visiting programs. The Junior Dean has also taken no small part in promoting the changed attitude on the part of our teachers toward elementary instruction as a field of activity.

THE TEACHING STAFF—ADVANCED INSTRUCTION

In the area of advanced instruction, the College is less adequately manned than in the elementary area.

A considerable number of resignations have occurred during the past year. Professor Watkins of the Bureau of Business Research has resigned to accept a position with the National Institute of Economic Research. Professors Bamberg and Sternberg of the Department of Commerce Extension have resigned, the former to accept a position at Northwestern University and the latter to engage in business. This Department has also lost the services of Mr. Wayne Ley. Professor Shively and Mr. Kaufman of the Department of Business Organization have also resigned. The Department of Accounting has lost the services of two instructors, Messrs. Thomas and Shonting, the former accepting a position at the University of Detroit and the latter being on leave of absence to assist the State Director of Fniance.

Certain additions have been made to compensate for the loss of the services of the individuals referred to above. It is our judgment that some further increase in the staff will be necessary if we are to realize, in the area of advanced instruction, the possibilities inherent in personalizing this work and stimulating the individual student through larger use of the project method. It is our thought that the student needs to be enlisted in educational enterprises through the use of the project method.

Some compensation for the inadequacy of our teaching staff might be effected by adding distinguished visitors to our Summer Quarter staff.

The College has made some progress in promoting field work for advanced undergraduate students. It is our thought that this practice of placing students in selected business or social agency positions for a quarter between their junior and senior years adds materially to the effectiveness of their training. Such experiences assist the student in his choice of a vocation and furnish a valuable background for the course work of his senior year. Up to the present time, this program has been limited by the inadequacy of our personnel. It is urged that there be added to our staff a Director of Personnel who can establish these contacts and do the work incident to and necessary for such a program. Such a director should also be of great value in placing graduates in positions and in assisting students to secure part-time employment for experience which will effectively supplement their school work.

SALARIES

Salaries have been advanced somewhat above previous levels. The College, however, continues to suffer rather severely from the competition for the services of our staff members both from business and from other educational institutions. Other Schools of Commerce, like our own, having passed through

a period of rapid growth, are now endeavoring to consolidate and strengthen their positions and offer a keen competition for the services of our teachers. Moreover, the rapid growth of bureaus of business research offers another field of competition. It is hoped that further salary advances may lessen the severity of these competitions for the services of our teaching staffs.

MISCELLANEOUS SERVICES OF THE COLLEGE TO THE STATE

In addition to its services on the campus, the College has rendered certain services to the state at large. The Department of Commerce Extension has offered regular University courses to mature students in many cities of the state. In this connection, it is our thought that this Department has taken a position of leadership in the rapidly growing field of adult education.

In addition to conducting adult classes of regular university grade, the Department of Commerce Extension has promoted—or assisted in the promotion of—a large number of conferences of business and social interests. For example, in cooperation with the School of Journalism, the Department fostered the "All Ohio Newspaper Conference, November 9-10, 1928, and the meeting of the "Blue Pencil Club," April 4, 1929. It also assisted the Department of Accounting in promoting the "Annual Accounting Conference" May 17, 18, 1929. The Department also cooperated with the Columbus Chamber of Commerce and with other Chambers of Commerce in the promotion of programs in connection with Management Week. The Real Estate Interests of the state were assisted in formulating a program for their annual meeting in the autumn of 1928. In addition the Department assisted in programs relating to child welfare and public health.

The Bureau of Business Research has rendered valuable services through its research and publication of monographs on a variety of statistical, merchandising, accounting, and manufacturing subjects. Its activities have been loyally supported by its business constituency which has been most cordial in its cooperation with the research program. The members of the teaching staff have also been liberal of their time and energy in responding to numerous requests to address business, educational, and other groups.

THE NEED FOR THE COMPLETION OF THE COMMERCE BUILDING

One of the outstanding college needs is for the completion of the Commerce Building. This building was outgrown before it was completed. At the present time, commerce classroom needs far exceed the capacity of the building and classes are assigned to scattered rooms over the University campus. This is a special disadvantage where effective teaching calls for special equipment, such as maps, exhibits, etc. Laboratory space is inadequate and sections are too crowded for effective work. The College library reading room space is too small to accommodate the students who must use this room for assigned readings. Both the Bureau of Business Research and the Department of Commerce Extension are badly crowded and, with larger programs in effect, will be in great need of additional space. The situation in regard to the provision of adequate office space for members of the instructional staff is particularly bad. The majority of our instructors are crowded into combination offices where conditions are bad both from the standpoint of research and of student conferences. The administrative office situation is such as to make no adequate provision for the Junior Dean.

COLLEGE OF DENTISTRY

Dean, HARRY M. SEMANS

Research work in the dental field has been very active during the past year under the charge of Assistant Professor Paul C. Kitchin. A short résumé of this work from Dr. Kitchin follows:

RESEARCH, 1928-29

Three projects have consumed the entire time of the period covered by this communication. They are listed below together with their present status and future plans.

Project 1. The lymphatic circulation in human dental tissues.

This project has been but recently initiated, and to date seven specimens of intra-vitam stained teeth have been secured, ground, and mounted for study. The gathering of such material as this is necessarily slow, and more specimens must be secured as opportunities present. Dr. George Paffenbarger has been cooperating with Dr. Kitchin in the securing of suitable specimens for this work during his duties on the clinic floor of the Dental Clinic. The material on hand shows a distinct circulation in the hard tissues of the teeth and a report on this material is in the process of preparation.

Project 2. The relative efficiencies, from a bacteriological standpoint, of various germicides used in the treatment of putrescent root canals.

This project has been carried on over a period of two years, a report of last year's work having been previously made. The progress since that report has been a continuation of work along identical lines with new material as it could be secured from patients reporting to the Dental Clinic. It will be reported in detail as soon as the data gathered can be properly tabulated and discussed.

In connection with this project it is proposed to devote some time during the coming summer quarter in an effort to determine successions of drug applications which may be instrumental in lowering the resistance of the organisms in putrescent root canals to treatment. Some indications of the possibility of this sort of thing have been indicated during the work on this project, and the usefulness of drug succession in treating infections of the urinary tract have already been demonstrated by workers in that field. A request for funds to the amount of $100 is being made to the Graduate School in order that a technical assistant for bacteriological determinations may be used during the summer for this particular phase of Project 2.

Miss Bernice Tracy, of the Department of Bacteriology and a student in the Graduate School, has rendered technical assistance on Project 2, and in return has been permitted to use the data gathered in the preparation of a thesis for the degree of Master of Science. She will continue in that capacity this summer, provided the request for funds from the Graduate School can be granted.

A complete report of the work to date will be given before the American Dental Association at its meeting in Washington, D. C., next October. The project will be continued.

Project 5 (c). Histological Phenomena of Tooth Tissues as observed under polarized light and between crossed Nicols. With a note on the X-ray spectra of enamel and dentine.

This project consumed most of the time in the Fall and Winter quarters and a lengthy report on the work accomplished was presented before the American Association of Dental Schools at Chicago in March. This report is scheduled for early publication in the Journal of the American

Association, probably in July. Mr. A. T. Cape, graduate of the Royal School of Mines and a layman much interested in the crystal structure of teeth, has cooperated with Dr. Paul C. Kitchin on this project. Much interesting data, necessarily of a preliminary nature, was secured and has been discussed in the above-mentioned report. All the work done was with equipment borrowed from the Department of Mineralogy, supplemented with that of the Dental Research laboratory. This equipment was called for class use at the beginning of the Spring Quarter, and the project has necessarily been much curtailed since that date. Equipment has been ordered for the Dental College which will allow uninterrupted work on the project as soon as said equipment is received.

An application for funds to carry on this project in a much more complete manner has been made to the American Dental Association through its Research Committee, Dr. Homer C. Brown of Columbus, chairman. In case these funds are granted they will be available for the employment of technical assistants in the Dental Research Laboratory on this project only.

Dr. Kitchin spent several hours a week during the past quarter in the Department of Mineralogy in order to secure a working knowledge of various crystalline forms, and he is desirous of continuing a course in the technique of polarized light under the direction of Dr. William McCaughey in the Fall Quarter. The use of this technique promises to provide histologists with a new and useful weapon in the study of the hard tissues and may yield valuable data on questions of dental caries and the effect of dietetic variations on the formation of the teeth and bones and changes subsequent to formation.

Dr. McCaughey, of the Department of Mineralogy, Dr. Blake of the Department of Physics, and Dr. Hollingsworth of the Department of Chemistry, have given the most cordial and valuable cooperation on Project 5 (c).

It is really quite necessary in order that the work in research in the Dental College move along at the desired rate of speed to have funds enough to secure a suitable technical assistant for the laboratory. Material can be secured and plans can be laid, but the carrying on of detailed laboratory procedures requires more time than one person can find and still care for other phases of the work.

OTHER ACTIVITIES

Members of the dental faculty have been active in giving papers and clinics before district, state, and national societies. The following report will show some of such activities.

Dr. I. A. Bottenhorn, Professor Dental Pathology, gave a paper and clinic at the Toledo Dental Society in March; in April, a paper at the April meeting of the Central Ohio Dental Society at Mansfield; a paper at the Stark County Society at Canton in May; attended as delegate in March at Chicago the American Dental Research Institute. He has been elected president of the Columbus Dental Society for the ensuing year.

Dr. H. V. Cottrell presented a paper at the annual meeting of the Chicago Dental Society in January, one at the American Association of Dental Schools at Chicago in March, and at several of the state district societies during the year.

Dr. William C. Graham, Assistant Professor of Dental Medicine, as Secretary of the Peridontia group in the American Association of Dental Schools, attented the annual meeting at Chicago in March and presented a paper on dental research and dental prevention. He also gave a paper in May before the Western Ohio Dental Society at Sidney on diseases of the mouth.

Dr. Charles W. Strosnider, Assistant Professor of Operative Dentistry, gave clinics in March at Chillicothe, and in May at Canton.

Dr. Dick P. Snyder, Assistant Professor Oral Surgery, gave a lecture on "Acute and Chronic Infections Surrounding the Third Molar" in November at Springfield, papers on minor oral surgery at Chillicothe in March, at Mansfield and Akron in May, and a lecture on organized dentistry in June at Portsmouth. Dr. Snyder is president-elect of the Ohio State Dental Society, and as such attended conferences of state dental presidents at Chicago in January, and at Indianapolis in May.

Dr. George C. Paffenbarger, Instructor in Operative Dentistry, is spending the summer at the Bureau of Standards, Washington, D. C., in relationship to metallurgical problems having to do with dental filling materials. He will help to supervise the getting together of data of such nature and the presenting of the same before the American Dental Association annual meeting the first week of next October at Washington, D. C.

Last summer (1928) the Carnegie Foundation for the Advancement of Science signified their intention to donate some funds for the benefit of dental college libraries in a selected group of dental colleges. Twenty colleges were selected, of which the Dental College of Ohio State University was one. Sanctioned by the President and Board of Trustees, plans are now being undertaken between Dean Semans and Dr. William Gies, of the Carnegie Foundation, for the proper expenditure of one thousand ($1,000) dollars.

As suggested and planned during the past few years, the work in preventive dentistry has now been put under the full-time service, for the ensuing year, of Dr. William C. Graham, Assistant Professor Dental Medicine and Oral Hygiene. This will bring about a very desirable feature in dental education. The practical work will be done on children of school and pre-school age, infants, and prospective mothers. How to make and how to keep sound teeth will be thoroughly taught the dental students, so that in the future the public will benefit increasingly by such health service.

It is befitting at this time to express the sorrow universally felt throughout the dental world by the death of Gillette Hayden, D.D.S., Ohio State University, 1902. Dr. Hayden, at the time of her death was, and had been for a number of years, a member of the University Alumni Board of Visitors. She was always interested in the welfare of the College of Dentistry, quite insistent that only the best should prevail, and ready and willing to help in the increasing demands for improvement. A few years ago she gave her dental library, about one hundred and fifty volumes, to the library of the College of Dentistry. Dr. Hayden, as the great-granddaughter of Dr. Horace H. Hayden, founder of the first dental college in the world, showed her inherited aptitude by being one of the founders of the American Academy of Peridontology and an early president of the same. An eager, earnest worker, skilful, a constant contributor to dental literature, Dr. Hayden brought great credit to her Alma Mater.

We have now finished our first year on the so-called two-four plan. Two years of largely selected science training in Liberal Arts and four years of dentistry. Although the freshman enrollment was expected to be small last Autumn Quarter, a class of forty registered, an indication of the fact that dentistry as offered at the Ohio State University is quite desirable.

The following seniors were elected to membership to the Dental Honor Fraternity, Omicron Kappa Upsilon: Lyle Smith Pettit, James Skramovsky, Raymond Cummins, David Bender, Harvey Prather, William Kling, and Robert Wade.

COLLEGE OF EDUCATION

Dean, GEORGE F. ARPS

The general progress of the college during the year has been satisfactory. This progress has been increasingly noticeable in the quality of instruction, growth of graduate work, and, under existing circumstances, in productive scholarship. The substance of the various departmental comments are abbreviations of and additions to the more extensive reports forwarded separately. Very little statistical material is incorporated in the text and for the following reasons: (1) such materials are indirect measures of the educative process and are unrevealing as to the nature of the process itself; (2) they are essentially externals, and little reliance may be placed on externals as criteria of qualitative progress.

An increase in the instructional staff has reduced the size of classes and made possible a closer personal relationship between the teacher and the student. Recognition of the individual as an individual is thus made possible, although it does not necessarily follow as an inevitable consequence.

Quantitatively considered, reduction in class size, in itself, is relatively ineffective, and should be regarded as a necessary first step to instructional improvement. The optimum class size should be experimentally determined for each subject. An improved condition surrounding the science and art of teaching, a better methodology plus a higher grade of instructional preparation are essential to qualitative gains in learning. Mere division of students into smaller units of instruction, by and large, leaves the student educationally unimproved while the teaching personnel is greatly increased.

In this connection it might be well to give pause to consider the expressions of President James Rowland Angell: "The so-called mass instruction methods of certain of the larger universities are pilloried in fine frenzy by impassioned orators and by supercilious essayists who are completely oblivious to, and ignorant of, the disquieting experimental and observational evidence suggesting that the virtues of the very small class have been much over-rated, or at least gravely misunderstood." It has already been suggested that mere division of a large unit of students into smaller units does not in and of itself underwrite increased instructional effectiveness.

The psychologicol factor and personality equation of the teacher are parts of the total situation, which again cannot be compassed by any mere divisional methodology. Angell says: "It is not so much that the one type of instructor is intellectually intrinsically superior to the other, it is rather a question of the psychology of the individual teacher." Here again we are confronted with individual differences. "Many men are stimulated by the presence of a large class and produce results which are quite beyond those that they are normally capable of achieving when dealing either with small groups, or with individual students. The tête-à-tête type of situation is to some men distinctly inhibiting in its effect—and this is true of students as well as instructors; but in the case of the instructor this circumstance is much more fatal for the success of the method as a general device. Education is certainly a field where one may properly shun uniformity and encourage diversity." From diversity, from the

principle of individual differences and the necessity of exercising discriminative judgments there appears no escape, however comfortable such escape might be.

Increments in qualitative gains, however, involve a high order of penetration, and such gains cannot be acquired save when teaching is nurtured in an atmosphere free from irritating restraints (improper supervision), and petty exactions which lead nowhere. The open highway of inspiring instruction on the one hand and serious scholarship on the other must be free from the debris of outworn traditionalism and the clutter of routine. The Dean has given his attention to these matters and, with the assistance of the President, occasioned relief wherever possible. For these two main reasons statistical data has been reduced to a minimum.

GENERAL CONSIDERATIONS

I

Throughout the several departmental reports there will be observed an obvious urge toward progressive improvement and an implied discontent with present attainments as imperfect realizations of practical ends. A faculty engaged in productive activity and continuously alert to newer movements, new ideas, is unlikely to be blandly complacent with standardized procedure and rigid classification. Looking backward is a besetting educational defect. A faculty otherwise minded will be oblivious to the fact that a university in all its parts is extremely diversified, essentially uneven, and that it is in fact a growing, ever changing, living organism. To the extent in which rigidity and uniformity in the thought process of the university are lacking, to that extent will the intrinsic life of an institution come into realization of its highest possibilities. This cannot be too strongly emphasized, since man's natural tendency is to avoid the arduous task of continually making discriminative judgments. Erecting schedules, categories, pigeon holes, grooves, or other thought canals, to which each case or problem may be mechanically referred, is perhaps the most effective method of lulling the intellect to repose. Uniformity "killeth the spirit which maketh alive" and is the resort of timid and uncertain minds.

These are matters of crucial import if we are to avoid dissatisfaction and restlessness born out of attempts to mechanize the daily life of a teacher who is essentially interested in the development of changing youth, on the one hand, and the evolution of his subject matter (research), on the other; rather than interested in enrollments, course numbers, filling out endless blanks which can serve no higher purpose than the secondary aspects of education. Not infrequently these secondary aspects, by invading time and absorbing energy, become positive deterrents to the healthy intellectual growth of the university. To my certain knowledge European scholars are not so encumbered, and there is only a traditionally bad practice to sustain existing American procedure above the junior college level. I sense this restlessness in our faculty.

II

Throughout the reports of such departments as Principles, Art, Music, and Psychology, there is found continuous emphasis on the fundamental conception of individualizing procedure. How to "raise the individual out of the mass and establish his identity" is a paramount departmental concern. Here again we find an effort to avoid the deadliness of uniformity and to create conditions favorable to free expression of individuality and initiative.

The warp and woof of true education consists in the recognition of individual differences in both mental and physical structure. The essential meaning of Dr. Toops' numerous and important reports consists in unraveling differences rather than in discovering similarities. The remedial studies of Mrs. Pressey are concerned with differences in preparation, in habits of study, in intelligence, in omissions and emphasis in elementary and secondary-school studies, in interest, objectives, aims, an dthe like. Dr. Stone's continual emphasis on the necessity of guidance rests almost entirely upon the principle of innate and acquired human differences. It is little short of surprising that collegiate administration should strive toward uniformity in procedure when creative activity thrives only under diversified treatment. The destruction of individuality is at no time so certainly underwritten as when personalities are reduced to a common denominator. Under these circumstances originality and initiative cannot thrive. It is probably true that the most powerful intellects are not contained in the rigid atmosphere of a perfectly regimented college or university. Docility and rote memory are not infrequently prime prerequisites to a successful university career. Dr. Bode's suggested integration of practical and liberal education under conditions of directed freedom is suggestive of the principle of individual differences and autonomy. The report of Dr. Stone gives similar emphases.

The principle of self-activity and the definite recognition of individual differences are admirably set forth in Professor Hopkins' report. In costume designing, for example, the student is confronted with a situation the solution of which is maximally dependent upon the individual. In landscape architecture, in ceramic art, and in the new development of the art of the theater are found excellent demonstrations of self-activity, originality, and initiative in recognition of the principle of individual differences. Here the individual is definitely hoisted out of the mass.

Wherever we may turn, there we are confronted with differences. In the department of music, a class of twenty-five students is probably too large; in psychology, a desirable section, it is estimated, is approximately thirty. Similar differences will likely appear in the biological and non-biological sciences, in the languages, and the social sciences. No uniform class size can be safely posited as an invariable mode of procedure in advance of experimental evidence. In the language of Dean J. L. Morrill, "There should be flexibility and fluidity of experimental trial and error to discover the correct solution to particular and differentiated situations."

Standardization is antagonistic to individual differences, to initiative, originality, self-activity, and attempts to smooth out differences by the method of common denomination. When the method is applied to salary schedules, whether in the instructional or clerical staff, a premium is at once placed on mediocrity. The "gain" in such a procedure is one of administrative convenience and relief from the task of making discriminative judgments; the cost in terms of educational effectiveness is mediocrity. No university or industrial plant can rise to superiority when it fails to differentiate superiority from inferiority, or when it squeezes top and bottom efficiencies toward the middle.

What greater error could be made than to equate "800" and "400" courses and thus derive a standardized professional load; or to standardize student load when student intelligence varies from evident inferiority through mediocrity to definite superiority? The standardized minimum student load is

fifteen hours, while the standard maximum is eighteen. Three credit hours per week, therefore, represents the difference in the carrying power of the inferior student (one percentile) as compared to the very superior (one hundred percentile). Expectancy is therefore mostly fulfilled, namely that the inferior student fails and the superior grows indifferent and frequent critical. Here again the tendency is away from the principle of individual differences.

It will be interesting to determine statistically whether the recent liberal provision for increased teaching effectiveness results in a lowered student mortality. If previous standards of graduating attainments were acceptable, and our practice confirms the assumption, then a decrease in failures and an increase in the number of higher marks should follow. Such results are not at all likely to follow, since educational standards are in practice continuously relative. There is in this entire region of collegiate practice an urgent need for careful educational investigations by a committee of the University Faculty.

The situation with respect to the curricular treatment of freshmen is similar. The most competent high-school graduates of the best cosmopolitan secondary schools of the state are given identical consideration with the least competent graduates of the inferior secondary schools. Moreover, there is practically no differentiation between students who have secured four high-school units of credit in a given subject from those who have received one or two such units. Here again the principle of individual differences fails to operate. Sooner or later the University will study these and allied problems as has been the practice in the secondary and elementary schools for many years.

The reports of the department of School Administration and Psychology and others make clear the desirability of establishing educational leadership and cooperation throughout the state. This cooperation is markedly manifest in the expert services which the departments of School Administration and Principles are giving to the State Department of Education; in the leadership of Dr. Toops in the research program of the Ohio College Association; in the practical assistance which the Psychological Clinic gives to the city of Columbus, the state at large, and to various state institutions.

Intramural cooperation is illustrated by the services of the Music Department in training five hundred students outside its own department in glee club work, in the orchestra, and in supplying student talent for a large variety of ceremonies and events; by the services of the Fine Arts Department in preparing decorations for numerous University events and in providing artistic surroundings in a variety of places in the University; by the serivces of the Department of Psychology in serving hundreds of students outside the College of Education, in cooperation with the Department of Home Economics in its Nursery School, in the University-wide scope of the work of Dr. Luella Pressey which will in time penetrate the high schools of Ohio, in the work of Dr. Toops in making available the results of the University Intelligence Test to all important executive offices of the campus, and in the valuable services rendered by Dr. Stogdill to maladjusted women students of the University as a whole. These activities are vital to the University community and are in addition to the duties of teaching and research. Unfortunately, the time and energy consumed in their performances cannot be made manifest in the quarterly statistical report.

III

Attention is invited to the service of the Junior Dean. It will be observed that his function is strictly educational and not clerical in character. The work of his office is something other than approving schedules, computing point-hour ratios, disciplining refractory students, prodding the laggard, and, in general, attending to matters which rightfully fall into the penumbra of education. His attention has been centered on such problems as individual differences, individual objectives, correlating student load with student ability, vocational guidance and advice, application of the doctrines of interest and motivation, adjustments incident to the new environment, personality involvements, methods of study, orientation, instruction under experimental conditions, and kindred matters bearing intimately upon the problems of learning and the learner.

While no attempt has been made to secure essential relief for the office of the Senior Dean through the addition of the Junior Dean, the latter has contributed substantially to the college program as a whole. With the appointment of the Junior Dean an entirely new program of service was inaugurated and carried out independently. The report of the Junior Dean, partially incorporated in this report, sets forth in some detail the character and extent of his service. The success of the experiment is such as to remove it definitely from the realm of experimentation to a permanent administrative position. In view of the large number of students and the exacting character of the service, an additional Junior Dean should be appointed as soon as budgetary provision is possible.

Since the service is educational in character, it is suggested that the Junior Dean be afforded an opportunity to do a limited amount of teaching. This suggestion might well apply to that fraction of the University personnel which is more or less closely identified with the student and his problems. What applies to teaching applies to productive scholarship. The Junior Dean should do some writing in his field of exploration, and for reasons identical with those which apply to the instructional and semi-administrative personnel of the University. The situation is paralleled in the case of the Secretary of the College. A closer identification with learning and the learner would follow as a necessary consequence of a limited teaching schedule. An exclusively desk approach to the problem of education is too remote and is likely to take on a fixed, unalterable, and highly artificial character.

IV

The Senior Dean of the College has long held that he should teach a 400, 600, and 800 course in the Autumn, Winter, and Spring quarters respectively. It is held that educational leadership requires vital contact with the learner at all important levels of university instruction. If this is not the case, the mechanics of education are likely to be covered with fictitious importance which American education demonstrates as far down as the early grades. This demonstration reaches rather more complete fulfillment in all but a negligible few of our universities. A surface study of the British, Continental, and Canadian universities reveals a surprising lack of machinery, which lack cannot all be ascribed to differences in social organization and educational objectives. There are, of course, many reasons why the great majority of eminent scholars of the world are found in Europe. There are few rules and

practically no machinery to deflect time or energy from the main purposes of the professors.

ADULT EDUCATION (PARENTAL PHASE)

The recent movement toward adult education is of European origin, having reached its highest and best development in England. For almost one hundred years there has been some definite, conscious educational work for adults in America. In 1839 Lowell Institute in Boston was founded "to maintain free public lectures for the people of Boston by the best men available in all fields of learning." Eight years earlier the American National Lyceum had inaugurated the plan of giving extra-mural university courses. Traveling libraries also date back to 1831.

One of the objectives of this movement is to increase literacy at the top of the social order, to reduce dependency at the bottom and delinquency generally. In America the movement has made considerable headway, notwithstanding a conservative attitude of professional educators and scientific-minded laymen. As usual such a movement is likely to enlist a considerable number of socially-minded persons who fail to penetrate the educational significance of the movement and who find in it a source of congenial occupation.

That the movement contains a sound principle of education and contains objectives of solid merit is evidenced by the high-grade educational institutions which are incorporating it into their regular programs—such as Chicago University, various State Departments of Public Education, including New York State, and the United States Bureau of Education.

The University of Chicago was the first great American university to see the importance of planning courses for all students desirous of an education regardless of age, and to devise ways of supplying this work to adults who could not come to the campus and dedicate months or years to the academic life. Growth in its work for non-resident students has been continuous since the beginning, because ideals of excellence and service have always safeguarded the work offered.

The Chicago plan of adult education, conducted by the best-trained members of the regular university faculty, requires standards of competency comparable to the best campus courses. These courses are conducted for serious service and education rather than for profit, and involve individual study and personal relations to the instructor rarely obtained in campus classes. That a university may successfully conduct adult education courses in a manner reflecting credit upon itself and in serving thousands of students all over the world has been proved over a period of thirty-seven years by the University of Chicago.

In the absence of anything more substantial, a considerable portion of the adult population (5,000,000) attend summer chautauqua courses and winter lyceum courses at an estimated cost of between $12,500,000 and $20,000,000. These are the only means available for satisfying their intellectual needs. This vast expenditure of effort and money for continuous education should be satisfied in a more substantial manner and could be if the cost were differently applied.

The department during the year has reviewed the literature of the field and concludes that sounder methods and more practical principles should obtain

than has hitherto been the case, if its service is to be made comparable in effectiveness to campus work. No standard short of this should obtain. The University of Chicago makes this type of university instruction the subject of experiment and research just as it does its campus teaching and laboratory courses. When this is wanting, superficial results are sure to follow and survival of the movement is doubtful.

The parental phase in operation at this University represents a cooperative undertaking between the clinical and educational areas of the department of psychology, the State Department of Public Education, the public schools of the State, and other public and private organizations. Through these various agencies it is hoped to reach as far as possible into the childhood of the state.

With a scientific understanding of the psycho-biological nature of childhood on the part of parents and all others having to do with the young, some considerable solution of the problems of juvenile delinquency and crime may be expected. It is a recognized fact that crime is not inherited but is a product of childhood's neglect and mistreatment. Until society, through its educational institutions, recognizes that children should be scientifically studied as is done in the case of the lower animals, we are not likely to witness any considerable diminution of juvenile delinquency and subsequent adult criminality. The genesis of crime is to be found in the ontogenetic history of youth. Crime is made, not inherited. Ephemeral, periodic, and sporadic solutions, such as appointments of crime commissions, establishment of law-enforcement leagues, and the like, will continue to flourish—bale out the boat and neglect the leak—until the psycho-biological approach to the problem is acknowledged. Each generation will continue to harvest its crop of human derelicts until science devotes its attention to the problem.

It is the worth-while, the intelligent children who, through parental and social mistreatment, develop into effective anti-social adults. It is from intelligent childhood that maladjusted adults are recruited. The origin of criminality, pauperism, chronic invalidism, and all manner of psychological ills is found to be far back in childhood.

In 1927 there were more than 30,000 delinquents in Ohio. The greater part of these had no innate criminal tendency, but were *made* delinquents. This appalling waste of human material does not include those who are partially incapacitated. Probably 40 per cent of the incurable adult delinquents are of average, or better, native intelligence.

By means of parental education, carried on in cooperation with the Department of Psychology and the State Department of Education, it is hoped that the best psychological, sociological, educational, and biological information on childhood may be made available to parents who are otherwise intelligent and well informed. In Dr. Jessie A Charters, who received her degree in Psychology at Chicago University, and in Dr. Amalie K. Nelson, who received a similar degree at the Ohio State University, the University possesses two persons highly specialized in the field of psycho-biology. This limited personnel is attempting to reach in some slight degree the aims and objectives briefly summarized above.

The problem of adult education is of course very much larger than the parental phase here described. The larger and more inclusive meaning has been well summarized by Dr. B. R. Buckingham in a commencement address at the Ohio State University. "The greatest waste—in fact, the great, useless expenditure of time, money, and energy—lies not in what happens in school or

college or university, but rather in what happens after the student has been graduated from the institution."

A detailed account of the activity and accomplishment of the department is here precluded by space limitations. An extended account is forwarded under separate cover.

BUREAU OF EDUCATIONAL RESEARCH

The activities of the Bureau may be summarized in the following fashion.

Five members of the staff have each offered one or more courses in the Graduate School in accordance with past practice.

Two major publications have appeared. One of these is the publication by Mr. Holy of Volume III, *Educational Survey of West Virginia.* Volume III deals with the school-building survey which was conducted under his direction for the State Department of West Virginia. *The Commonwealth Teacher-Training Study,* under the authorship of Douglas Waples and the Director, appeared from the University of Chicago Press in February, 1929. This work was completed before the Director assumed his duties at the Ohio State University.

Of articles, twenty-one have been printed in the *Educational Research Bulletin* and elsewhere, and to this should be added fifty-six book reviews and sixteen editorials.

During the year the members of the staff have delivered thirty-seven addresses before local and state organizations. Before out-of-state organizations, twenty-four addresses were delivered at major universities such as the University of Pennsylvania, the University of Kentucky, the University of Michigan, and the like; before national organizations at the Superintendents' meeting at Cleveland; and before faculty associations, such as the American Association of Dental Schools.

During the year Mr. Ashbaugh resigned to become Dean of the College of Education at Miami University, and Miss Voegelein left the institution to establish a new educational index for the H. W. Wilson Company. In this she uses the subject index which she worked out at Ohio State. We were sorry to lose Miss Voegelein, but we have been able to secure a competent person in her place.

In the autumn of 1928, Miss Voegelein consolidated all the studies which had been undertaken by the Bureau from September, 1921 to September, 1928. These total 118. Of these, 63 were completed and published as articles, monographs, or reports; 25 were announced but not worked upon; 13 were discontinued; and 17 are still in progress.

During the present year 30 major projects are in progress. In addition to these major projects, the Bureau is carrying on 41 departmental projects of a minor nature, not of sufficient importance to be called major or Bureau projects. In this connection it may be said that the policy was laid down at the beginning of the year that, if possible, each member of the staff, including the secretarial force, should undertake one or more projects. It was felt that the junior members of the staff should undertake studies to improve their methods of carrying on their duties. Proposals were presented to the Director and, where they seemed to be of value, were included in the list of minor projects. Studies carried on by graduate assistants which are not part of our major studies are included as minor studies.

In carrying on the work of the Bureau, certain new administrative techniques are being used. Weekly staff meetings have been inaugurated, at which projects are reviewed for criticism. The policy of requiring weekly progress reports was inaugurated, as was the policy of having a report on or before September 1 of each year of all studies, whether completed or not, filed in the appropriate place in the Reference Division.

In the Reference Division a large number of acquisitions have been made to the library. The most numerous of these are:

Subject	Number Received
University and college catalogs	1,119
Books	1,094
Bulletins	890
Reports	252
Tests	71

In cataloging this material, 27,000 cards have been added to our subject-index file. Fifty-two bibliographies have been sent out by mail upon requests coming from 30 cities in Ohio and 22 cities in 12 other states.

The Reference Division continued this year the exhibit of textbooks for the Ohio Educational Conference, and in this connection three hundred fifty new books were added to the library.

The Editorial Division has issued seventeen numbers of the *Educational Research Bulletin*. In addition to this, they have had time for more research than usual this year in the interim between the removal of the *Journal of Educational Research* in the summer of 1928 and the establishment of the *Journal of Higher Education* in the autumn of 1929.

In the Appointments Division, 1,254 calls were received and 2,099 recommendations were made. For 262 calls no recommendations could be made. During the year the Appointments Division registered 783 applications, of whom 175 were masters and 21 were doctors of philosophy. During the current year Mr. Anderson has adopted the policy of printing the records of all available graduate registrants with grades of C or above, and has distributed these broadcast in a simple circular form. This has proved to be very useful. The same practice was followed last fall with the difficult task of placing negro graduates. Mr. Anderson reports that by this means all of these were placed in cities that were interested in negro graduates of colleges of education. I feel that Miss McCarroll and Mr. Anderson have hit upon a very good plan of distribution.

In addition to this, I should like to call attention to the demand and supply study which Mr. Anderson is carrying on during the current year. His figures are showing quite startling facts of which the following is typical. In one subject, English, there were approximately five hundred students graduated from teacher-training institutions in Ohio with a bachelor's degree and a major in English. Of this number, one hundred fifty secured positions as teachers of English. It is obvious, therefore, that there is a serious oversupply of English teachers. He is continuing the study in the other fields. This is being done with the view to guidance of professors and students in selecting the fields in high-school teaching for which students should be prepared. The Director feels that this is one of the most significant studies that is being carried on at the present time in the Bureau.

The activities of the Director within the University, in addition to some research studies carried on and reported upon elsewhere, have been numerous.

A few of the most important are the following. He has been a member of the Council of Instruction and of the Graduate Council, and Chairman of the Committee on the Evaluation of Graduate Work. In the curriculum field he has undertaken the preparation of a curriculum for directors of public health. This study has been carried through the job-analysis stage. He has been consulted by the Music Department in the reorganization of their professional courses. In addition he has been made chairman of the very important Committee of the Curriculum of the College of Education. The purpose of this committee is to reorganize completely the courses in the College of Education which are used in preparation for high-school teaching and for other types of educational positions to which the college is committed.

His chief interest has been centered upon the work of the junior deans. In this connection he has met the junior deans each week throughout the year and has helped them to formulate their policy for the current year and to lay out a comprehensive program for the next three or four years. He has informally inaugurated work with the supervisors of freshman teaching with the expectation that the supervision of freshman teaching will be forcefully pressed during the coming year.

Proposals have been made for the enlargement and modification of the Bureau of Educational Research for next year. The fields which need to be explored are college curricula, experimentation in methods of college instruction, and research in university personnel. In addition, it is imperative that positions be created to care for curriculum research in connection with the elementary and high schools and in experimentation of education in those fields.

During the last year the work in the Bureau has been carried on with considerable effectiveness. Quality of work as well as quantity will be increased, it is hoped, during the coming year.

DEPARTMENT OF FINE ARTS

The function of the Department of Fine Arts comprehends the training of professional painters, sculptors, architects, designers, the training of art teachers, and the general promotion of culture.

At the urgent request of the large ceramic industries of the state, the Department installed and set in operation its new laboratories of Ceramic Arts. Success in this new field is assured. The juniors and seniors in Ceramic Engineering are electing these laboratory courses, and inquiries from advanced students at other universities indicate a substantial demand for this work. Professor Baggs, director of these laboratories, is greatly in need of assistance usual to a proper conduct of laboratory courses.

The method of instruction in the Fine Arts affords perhaps the finest demonstration of recognized instructional procedure. Nearly all courses involve individual instruction. This method illustrates in concrete practice the keynote of the 1930 Ohio State University Educational Conference—"Reaching the Individual."

DEPARTMENT OF HISTORY OF EDUCATION

"Teaching is resignized by the Department of History of Education as the activity about which all the other activities of the University center. It is no less clearly recognized that teaching is not indispensable to successful work on the part of the student. The acquisition of knowledge and power through

scientific observation and experiment, through purposeful and systematic reading, may be carried on, as the lives of some of the most outstanding of the world's intellectual leaders show, wherever books or other potential sources of information are to be found. Nevertheless the superiority of the school over all other institutional aids to growth and enlightenment, especially for the young, has at all times been acknowledged. And this it owes to its distinguishing feature—teaching.

"To this all-important part of the university instructor's professional activities, especial attention has been paid by members of the Department staff during the past year. No attempt has been made, however, at absolute uniformity of instructional procedure. Each instructor has been encouraged to work out, in the light of principles recognized by all, that procedure which seems to contribute most to the attainment of the ends of class work.

"Constant effort is made through questions and discussions to stimulate the student to work over the subject matter, to test, to seek for relationships both among facts in this field and between them and facts in other fields, and above all to note their bearing upon conditions as they exist today.

"In the more advanced and specialized courses and in proportion to the accessibility of sources of information, less time is devoted to presentation by the instructor and more to the direction of the students' studies and investigations and to the discussion of results. In the "800" courses for graduate students, the instructor's time is devoted largely to consultations with students on the selection and definition of fields for investigation and in critical discussions and evaluations of methods and results.

"All the instructors of the Department are aware of the danger of lapsing into a fixed routine. An experimental attitude toward instructional procedure is maintained. The work of the past year seems to have been characterized by increased attention to class discussions and to stimulating independent study and investigation on the part of the student.

"Measured by the number of articles published in periodicals and by the amount of work done in bringing toward completion books and other material for publication, the past year has been perhaps the most productive in the history of the Department."

DEPARTMENT OF INDUSTRIAL ARTS EDUCATION

GENERAL AIMS AND POLICIES

"No report on general progress of practical phases of teacher preparation, accomplished or hoped-for, may be complete without stress upon the desirability for clarifying this whole situation by replacing the two departments with one Department of Practical Arts and Vocational Education. What appear to be salient considerations in this matter have been rather fully stated in budget memorandum, and referred to also in the section devoted to improvement of instruction hereafter.

"However, the gravity of professional issues at stake is so great that re-emphasis here undoubtedly may be more than justified. As shown fully in budget memorandum, a minimum of vocational industrial offerings is possible even without added staff; although the University surely cannot afford to disregard more comprehensive facilities for vocational education, including commercial. Especially graduate facilities and fundamentals of guidance in all teacher preparation appear imperative.

"Industrial Arts Education, as now conceived, and Vocational Education are comparative newcomers in the public-school program. In the past teachers and others in the personnel of these phases of education have been drawn largely from industry—hence have been craftsmen rather than educators; in fact, not a few have been entirely without formal professional preparation, and altogether too many have continued so. With these phases of education firmly established in the public-school program, the need for professionalization is very great, in the way of preparation of new teachers, in the upgrading of those already employed, and in research. While the first two needs mentioned are being provided in a limited way from various centers throughout the state, the public schools have come to look to the University for leadership too generally to make an exception in the case of vocational teacher preparation.

"In research, the demand for continuation of graduate facilities here is even more insistent; in fact, this is the only institution in the state with facilities equal to the needs of creditable service of this type. It may be said with fairness to all concerned that, if vocational offerings on the graduate levels should be dropped by the University, the state would be without effective leadership in vocational research. And the case is, if anything, even stronger for commercial education, since outside of the University the schools have only the private business colleges to look to for profesional preparation of teachers, and no place within the state to look for supervisors and directors.

"The need for a course in fundamentals of guidance in all teacher preparation has been often emphasized. Preferably this offering should come in the second year of the curricula. Not only is it basic professionally, but many prospective teachers should find it also personally beneficial in dealing with their own problems of election for the senior division. While there are undoubtedly better reasons than practices elsewhere why the University should make more liberal provisions for guidance courses in teacher preparation, yet it is surely not without significance for us here that other professional schools are now placing more emphasis upon this than perhaps any other single phase of preparation. For example, special announcements are just received that Harvard is providing for the coming summer seven different courses in guidance; and that the New York State Teachers College at Oswego (in which state guidance workers must now be certified) provides eight separate courses totaling eighteen credit points. Not only Harvard but various other representative institutions also, such as Wisconsin and Columbia, are providing degree curricula in vocational guidance. No policy in the University could be more soundly professional than that the "practical" phases of teacher preparation should provide more adequate training in vocational guidance, with the fundamentals course a general prescription within the College of Education.

DEPARTMENT OF MUSIC

I. NEW DEVELOPMENTS

Among the developments in music during the present year may be mentioned the following:

1. *Men's Glee Club.*—"This organization under the direction of Professor Herbert Wall has in a year's time become a source of pride to the Department and to the University. Approximately 125 men from departments other than music have had regular drills in singing and contact with the inspiring personality of Mr. Wall. A select group from the club won the state intercol-

legiate contest and placed third in the national contest at New York. Such an organization is a splendid asset to the University in more ways than one.

2. *Girls' Glee Club.*—"While not as spectacular in its success as the men's club, this group has shown a steady improvement and has given a good account of itself. The work of Mrs. Florence Wilson as director is greatly to be commended. The club participated in the state contest at Cincinnati with credit to itself and to the University."

The department has been unable to meet the demands of the "School of the Air" because of the more immediate and heavy demands of the regular service. The demand for group performances on important University occasions is continuous and insistent. The Department has responded to these demands to the point of interfering with its instructional obligations. More than five hundred students outside the regular departmental enrollments have participated in weekly rehearsals.

In the past the work in methods and supervision of instruction have been combined in the same course, to the detriment of either methods or supervision. This should be corrected.

A beginning has been made in teaching piano to groups of children. In the more progressive public schools this is now an accepted practice. These groups meet in the Music Building and serve as basis for observation and practice.

II. TEACHING METHODS

"The Department of Music is very sympathetic with the policy of the President relative to the reduction of the size of sections. However, the maximum of 25 set for elementary courses in general is in most cases too large for music classes. The nature of music requires a certain amount of individual work to be effective; and while certain courses (such as History and Appreciation and the ensemble groups) can be handled on the basis of 25, or in some cases more per section, others must be more limited. Courses in methods and sight singing should not exceed 18 or 20, classes in harmony 12; certain courses in applied music may run to 20 per section, but those in voice and piano should not exceed 4.

"In the new department where the needs are so much beyond the ability to supply, it cannot be expected that all demands will be met at once. A complete enumeration of such needs would be long and would be out of place. However, it may not be inappropriate to set down the more immediate ones.

1. "There is an insistent demand for a more advanced type of *instruction in the performance of music* and for curricula leading to a degree in this aspect of music. If the department can be equipped for such work, it would greatly extend its service to students and to the University and at the same time strengthen in a marked way its preparation of supervisors in the public schools.

2. "As soon as a large teaching room can be made available to the department, *courses in appreciation of music* should be offered which will be of more general interest and helpful to the student who wishes to know more about music but who does not desire to study it intensively.

"The Department of Music is in the midst of a rapid but healthy growth. It is the purpose of the staff to teach well, to plan wisely for inevitable expansions, and to graduate students who will be vital forces for the develop-

ment of adequate music in the public schools of the state, and, as soon as practical, to develop the conservatory type of music."

OHIO STATE EDUCATIONAL CONFERENCE

The Ninth Annual Educational Conference was held April 3, 4, and 5, 1929. Attention is invited to the full report of the Conference wherein is contained much valuable information concerning the extent of its operation and the reaches of its educational influence. From year to year the scope and value of the Conference has steadily increased.

The length and breadth of this influence may be inferred when it is known that there were 34 separate sections and 142 speakers. Of these 142 speakers, 76 came from 24 different colleges and universities, 36 from different school systems, while 31 were lay speakers broadly interested in education.

There were 5,168 voluntary registrations, probably representing about 80 per cent of the total attendance. Out of the 820 incorporated cities and villages, 344 were represented at the Conference. Of the 88 counties of the state, 82 were represented at the Conference. The smallest attendance on any section was 40, while the largest was 2,100. The total sectional enrollment was 12,355.

The Conference has now reached such proportions that it can no longer be regarded as an exclusive opportunity for technical educators. The term "Educational Conference" is an inclusive one and may comprehend social service other than classroom activity and administration of schools. This will be evident from the variety of the sections.

While the Conference has been conducted under the auspices of the College of Education, many persons outside of the College have contributed to its success. The President has been most encouraging officially and personally. Officially, he has given financial support promptly, thus making early work on the Conference programs possible; personally, he has participated in many ways in connection with the general meetings. Acknowledgement should be made to James E. Pollard, H. Gordon Hullfish, and Earl W. Anderson for unexcelled assistance with the publicity of the Conference; to Miss Edith Cockins for making readily available many large classrooms and auditoriums. Many members of other colleges of the University were unusually helpful and cooperative.

Within the college, the success of the Conference is largely due to Dr. Holy's untiring attention to details and to Miss Tachauer's accuracy and dependability. The departments of art and music rendered valuable assistance.

The Conference is rapidly becoming a University function and there is no insuperable reason why the major responsibility for its conduct should not at some future time be assumed by an organization other than the College of Education. Indeed it would be a valuable experience, since all the colleges of the University must receive the products of the secondary schools, and since a nearer acquaintance with the secondary and elementary-school work and personnel would result in a clearer understanding and a keener appreciation of pre-university education.

DEPARTMENT OF PRINCIPLES AND PRACTICE OF EDUCATION

The report of the department may be considered under the subdivisions Practice Teaching and Elementary Education.

PRACTICE TEACHING

The appointment of Professor Seely greatly improved the situation in practice teaching in the field of English. Approximately one-third of our practice teachers are majoring in English. Twenty practice teachers is regarded as the maximum number which an instructor can completely supervise. Professor Seely has more than double this number under his supervision. As soon as practical he should be given assistance. The immediate needs in the fields of foreign languages and biology should be given prior consideration. The appointment of a supervisor in the languages is pending and when made will afford considerable relief.

ELEMENTARY EDUCATION

The appointments of Professor Bronsky and Dr. Zirbes greatly strengthen this field of service. The field of elementary education affords the richest opportunity for educational experimentation. The history of education shows that practically all educational theories have been tested in the field of elementary education and later applied to the upper reaches of the educational system. Pestalozzi, Herbart, Rousseau, Vives, and Dewey are among the outstanding educational experimentalists who have developed and tested their theories in the laboratory of elementary education. An experimental laboratory of this sort is an important need of the departments of principles and psychology. Such a school is necessary "to maintain the open road between theory and practice."

DEPARTMENT OF PSYCHOLOGY

The Department of Psychology is organized into seven divisional areas for administrative convenience. The present report summarizes the work of each area or group in the Department, and presents in order a brief summary for (1) elementary psychology; (2) the area of general psychology; (3) the educational area; (4) the area of clinical and abnormal psychology; (5) the area of industrial psychology; (6) the work in comparative psychology; and (7) the intelligence and personnel service.

For the year, the total enrollment in elementary psychology was 3,459; in the first course in educational psychology, 832; in courses for advanced undergraduates and graduate students ("600 courses"), 1,865; in courses open only to graduate students ("800 courses"), 161; in research courses, 305—a total of 6,619. The total for a year ago was 6,329. Advanced students are carrying on a total of 118 research investigations. It is interesting to note that the list of graduate students included individuals from 16 states.

During the year members of the department have published or have in press a total of eight books or monographs, 19 articles, 13 reviews (not including material in preparation but not yet in print), and have given a total of 110 outside lectures or addresses. A total of 21 new instruments or improvements on previous instruments have been developed. The Department takes special satisfaction in the services it is rendering to the University—the development of superior teaching in the elementary courses, the development of the program for Freshman Week and for remedial work with students suffering from handicaps in preparation for college, the organization of clinical consultation for maladjusted students, the growth of the test and personal service. The more detailed reports follow.

ELEMENTARY PSYCHOLOGY

For more than a decade the department of psychology as a whole has been greatly concerned with the content and method of instruction in its first course. Of the many alternative methods, the department elected the recitative method whereby each instructor is held directly responsible for the educational progress of his classes. In the so-called lecture-quiz method, we find a division of responsibility and a consequent loss in teaching effectiveness. Further centralization of authority and responsibility is lodged in Dr. William R. Wilson as director of elementary instruction.

The duties of the director may be summarized as follows:

(a) Secure the cooperation of the department in determining the educational objectives of a first course in psychology.
(b) Devise teaching methods consistent with these objectives.
(c) Conduct and supervise experiments in methods of instruction.
(d) Supervise instruction.
(e) Appraise instructors for reappointment or promotion.

As illustrative of (e) the experiment with Dean J. L. Morrill may be mentioned. In this experiment an attempt was made to evaluate in terms of increased learning the personal factor inherent in a closer acquaintanceship between teacher and student.

The current method of instruction is distinctly antagonistic to the traditional method of rote memorizing, in which facts unrelated to human conduct and behavior are taught. The elementary staff of instructors is selected from a long list of applicants who already occupy minor teaching positions. These instructors are young and plastic and therefore keen to undertake an experimental program. As a rule all of them have taught long enough to familiarize themselves with the ordinary classroom procedure. Moreover, they are not averse to appraisement of their teaching by the director and by the students.

The teaching of elementary psychology is at present greatly handicapped through a lack of proper laboratory facilities and equipment. Psychology is a laboratory science. It is not so conducted. We are still in the stage of Steele's "Fourteen Weeks of Zoology." If laboratory equipment is provided, instruction will be modified so as to make it consonant with the natural sciences. A desirable decrease in the size of classes now makes possible a limited amount of laboratory exercises for each elementary section.

There is need of an increased amount of direct supervision. The director should have a considerable amount of time reserved for this purpose. He should be entirely relieved of routine and clerical service by providing him with an efficient stenographer. An alternative would be the reduction in his teaching load. Neither the department nor the director looks with favor on the suggested alternative.

ADVANCED GENERAL PSYCHOLOGY

The laboratory of experimental psychology is the chief training course for later advanced experimental studies. There is at present a wide-spread discontent with the traditional classical approach to the experimental field. Dr. Renshaw has in preparation a new and different type of laboratory manual. To this end appropriate material is being collected, new laboratory problems presented, bibliographies assembled, and new methods of presentation tried out.

The graduate demands in the general field while gratifying are no longer endurable under present instructional limitations. The department feels that it now has made sufficient concessions to elementary instruction. During the year Dr. Weiss has supervised and directed the researches of approximately twenty advanced graduate students. The Dean of the Graduate School with the utmost consideration relieved Dr. Weiss of a desirable amount of classroom instruction and by so doing made possible a degree of supervision of each major piece of research.

The National Research Council appointed Dr. Weiss Chairman of the Psychology of the Highways. Under a grant from the Council, the Department has in progress fundamental researches connected with automotive driving. The findings will be utilized in formulating a federal licensing code which may serve as a model for state legislatures.

A monograph on Infant Behavior, covering three major research investigations, will soon appear. These studies were conducted jointly by Dr. A. P. Weiss and Dr. Andrew Rogers of the Medical College. National attention has been drawn to these fundamental studies of earliest infant behavior. There are in progress four additional studies which will appear in monograph form.

The Payne Foundation made a grant of one thousand dollars to the laboratory of experimental psychology for the purpose of investigating the influence of motion pictures upon children's mental and physical health. Dr. Renshaw will supervise and direct several major researches bearing on this problem.

Psychological progress is partly illustrated by new inventions of laboratory equipment and improvements of standard pieces of apparatus. With the excellent assistance of our mechanic, Mr. Hampton, twenty pieces of apparatus have been either devised or improved.

"*Needs.*—The work in experimental psychology, both in the laboratory training course and in the various research studies in this area, is being conducted under the handicap of insufficient room space; this is a continual source of difficulty both to the student and the instructional staff. Studies which demand adequate housing for apparatus set-ups, quiet, and privacy, have to be housed in quarters where individuals must have continual access to these rooms, such as the optics room, rooms 417, 403, and the like. On account of the impossibility of transporting apparatus and because of the necessity of having the shop facilities at hand, it is practically impossible for us to utilize rooms in other buildings remote from the laboratory. It is believed that the necessity for increased floor space on the fourth floor of the Education Building should be presented in the report of the department."

EDUCATIONAL PSYCHOLOGY

A careful and detailed revision of the required course in educational psychology has been carried on during the year in connection with the work of the Curriculum Committee of the College of Education.

Dr. Luella Pressey, with the assistance of Mr. Newland, continued an interesting experiment on the conduct of the recitation by means of a "modified committee organization." Future application to the first course in educational psychology will be determined by the results of the experiment.

The demand for graduate instruction and research in educational psychology is increasing. A number of major research projects deal with college and university problems. A total of twenty-nine students have participated

in research in this area. Authorized additions to the staff will afford relief for the ensuing year.

The services rendered by Dr. Luella Pressey in Freshman Week and allied University problems may briefly be summarized as follows:

(a) Preparation of a booklet on *How to Read a New Assignment.*
(b) Preparation of a pamphlet containing practice exercises in interpretative reading.
(c) Investigation of the effects of Freshman Week and related procedures aiming to aid freshmen.
(d) Investigation of the effects of a remedial program in reading.
(e) Institution of various studies "to determine the essential previous preparation for success in the University."

In recognition of the valuable contributions of Dr. Pressey, she has been invited to prepare a section of the 1930 Yearbook of the National Society of College Teachers of Education. This section will deal with diagnostic and remedial student service.

During the year valuable projects have been undertaken bearing on public-school procedures. These may be summarized as follows:

(a) Evaluation of the Dalton method of instruction.
(b) Survey of the model school at Greenfield, Ohio.
(c) Completion of an eight-year program of research on a series of diagnostic tests in silent reading for Grades I-IX.
(d) Invention of an apparatus for automatic giving and scoring of tests. This instrument has attracted considerable attention at educational and psychological exhibits.

The area of educational psychology is greatly in need of clerical and stenographic assistance to relieve the staff of the necessary drudgery incident to inescapable routine. A second pressing need is a very substantial increase in the student labor fund. These requests have previously been detailed.

ABNORMAL AND CLINICAL PSYCHOLOGY

This area of the department offers professional training for teachers of psychology in colleges and universities, for clinical psychologists and psychoclinicians, for counselors and others dealing with student personnel and mental hygiene problems in colleges and high schools, for visiting teachers, social workers, and probation officers. The class work of this division gives some knowledge of individual differences and other useful professional information and training to many prospective teachers in elementary and secondary schools who are not majoring in psychology. Besides the aspect of professional training, the broader aspect of education in general, usually designated as "cultural," must necessarily be stressed in this field—perhaps more than in any other biological study.

The division stimulates and conducts research in this field. A list of studies in progress during the current year is appended. In general terms, the aims and objectives of this division are those of the Department as a whole —instruction, professional training, and research.

The research demands in the division parallel that found in the divisions of General and Educational Psychology. Some twenty-six major research projects were in progress during the year. Because of the extensive service

of the clinic and a heavy teaching load, this amount of major research becomes a very serious burden. The addition of Dr. Durea to the staff affords considerable relief. Without this relief definite curtailment of our clinical and instructional service would have been inevitable. The international reputation of Dr. Goddard in the field of mental deficiency and Dr. Maxfield's wide reputation as an educational and psychological clinician must be held responsible for the unusual growth of this division of the department.

The services of this division of the department may be summarized as follows:

(a) Maintains regular clinical service on Wednesday afternoons and Saturday mornings. Over 900 new cases have been examined during the past biennium, 55 cases from outside Franklin County.

(b) Made examinations of all entrants of the Dalton experimental school. This was no inconsiderable task.

(c) Cooperated with the Department of Home Economics in making psychological studies of pre-school children in the Nursery School and in demonstrating methods of child study to student observers.

(d) Cooperated with the Department of Sociology in affording students an opportunity to study individual cases involving problems in child guidance.

(e) Extended clinical service to the public schools of Columbus.

(f) Through Dr. Stogdill an extensive program of student consultation service has been in operation. This service deserves special mention by reason of the large number of women students who have been referred to this area of the clinic by various University administrators. Unfortunately publicity cannot be given to this service because of its private character. Nowhere in the University is the principle of individual attention to students so well illustrated.

(g) Cooperated with the Division of Adult Education in the conduct of its institutes and with parent-teachers associations.

(h) Dr. Maxfield has rendered signal services to the Division of Charities. Dr. Goddard for some time has acted as consultant to a committee interested in special classes for gifted children in the Cleveland Schools. His recent book on *School Training for Gifted Children* is a notable contribution in this field.

It is evident from the above that the total volume of service rendered by this division of Psychology is not reducible to quantitative formulation. Its clinical service is enormously time-consuming and must be visualized in terms of qualitative humanitarian service if properly understood and adequately evaluated.

INDUSTRIAL PSYCHOLOGY

This division of psychology falls into three major branches: personnel psychology, industrial efficiency, and psychology of advertising. A close cooperative arrangement exists between the Colleges of Engineering and Commerce.

During the year Dr. Burtt extended gratuitous assistance to Engineers in need of some psychological training. He also participated to a large extent in making Freshman Week successful. In addition Dr. Burtt collaborated in the National Research Council program and conducted investigations into the reliability of testimony. His book, *Psychology and Industrial Efficiency*, now nearing completion will fill a real need in this field.

COMPARATIVE PSYCHOLOGY

This division of comparative Psychology is a recent development in the Department. Undergraduate and graduate enrollments indicate a desirable student demand. With the existing facilities a large number of advanced students could be accommodated with difficulty. At present there are five students who are candidates for the advanced degree. Space difficulties are serious here as they are acute in the general and educational areas of the department.

INTELLIGENCE TESTS AND STATISTICAL PSYCHOLOGY

The services of this division of the department of psychology are varied and numerous. A summarized list of accomplishments follows:

(a) Publication of a follow-up study of 2,000 freshmen—*Academic Progress: A Follow-up Study of the Freshmen Entering the University in 1923.*

This study reveals a deplorable elimination between the time of entrance and graduation. Only 18 per cent of the freshmen graduate within four years, and probably not more than 35 per cent ultimately graduate. A 65 per cent elimination at least merits consideration as to the cause or causes. *A Survey of Freshmen-in-the-Making*, a comparative study with the Ohio College Association and with the State Department of Public Instruction, is in progress. The purpose of this study is to investigate the quality of the students admitted and to determine what percentage of qualified high-school graduates fail to attend college.

(b) Cooperation with the Junior Dean in the publication of a *Guidance Manual for Principals.*

(c) Investigation of the probable need for scholarships to assist gifted students to undertake a university career.

(d) Investigation in cooperation with the Ohio College Association of elemental deficiencies of high-school graduates and of remedial procedures.

(e) Cooperation with the Bureau of Educational Research in a study of ten-year duration of the careers in and out of college of the students of three successive freshman classes.

(f) Publication of 56 bulletins in cooperation with the Ohio College Association. These bulletins were prepared by Dr. Toops, as Chairman of the Committee on Intelligence Tests for Entrance. This committee is promoting a state-wide intelligence testing program of all high-school graduates. The states of Wisconsin and Utah have in contemplation an intelligence examination of all their high-school seniors. The Ohio State University Intelligence Tests will be used for this purpose—22,000 for Wisconsin and 4,700 for Utah.

(g) Publication of a monograph covering the results and uses of Intelligence Tests at the Ohio State University during the past decade.

(h) Completion of five-year program of research conducted in cooperation with the Ohio College Association and other colleges. For the purpose of handling this enormous amount of invaluable data adequate clerical and research assistance should be provided, as well as the necessary computing machines.

(i) Examination of all students entering the Ohio State University. These examinations must be graded and results reported to all of the executive offices of the University.

The assistance at the disposal of Dr. Toops is not adequate to meet the demands of his extensive and important research program. An increase in clerical, stenographic and research assistance would greatly facilitate the studies in progress and in contemplation.

DEPARTMENT OF SCHOOL ADMINISTRATION

During the year the department of School Administration has rendered signal service to the State Department of Public Instruction. Dr. W. J. Osburn, Dr. H. H. Davis of the Department, and Dr. Laura Zirbes of the Department of Principles and Practice of Education have given part-time service to the State Department. The advantages which accrue to the educational advancement of the State as a consequence of the services of these educational experts is obvious and is an obligation which the State University is happy to discharge. Immeasurable educational gains will follow a cooperative program of all teacher-training agencies of the State.

The desirability of establishing leadership in higher education still exists. A few years ago the department made an auspicious beginning and clearly led the Universities of the Middle West. Since the beginning, leadership has definitely passed from the Ohio State University. The conditions at the Ohio State University are exceedingly favorable for the development of leadership in this important field. With an administration favorable to the study of problems of higher education, with the existence of a well-developed Bureau of Educational Research on the campus, and with a number of departments vitally interested, we find the conditions maximally favorable. The appointment of a well-qualified professor is essential to effect a coordination of the interested departments.

One of the most significant educational attainments of the year consists in the organization and successful completion of the State-Wide Scholarship Contest. This contest was made possible by the cooperation of the State Department of Education and through the able leadership of Dr. H. H. Davis. The educational significance of this undertaking is apparent. Over 50,000 high-school boys and girls participated. In another year it is altogether probable that 100,000 children will participate. It is not difficult to visualize the extent to which such a contest will penetrate the parenthood and childhood of the state. Acknowledgment is made to Dr. J. L. Clifton, Director of the State Department, for his cordial support. Without his educational vision and financial support of the project, the contest would not have been possible. The 1930 contest has been partially underwritten by the Ohio State University, and future contests will be conducted under a joint arrangement of the University and the State Department.

The Department of School Administration is essentially a graduate department. No "400" courses are offered in the department. In the Summer Quarter the enrollment is almost exclusively composed of students who are candidates for advanced degrees.

COLLEGE OF ENGINEERING

Dean, E. A. HITCHCOCK

This annual report of the College of Engineering for the year 1928-29 embodies largely certain statements taken from the several reports of department chairmen in harmony with suggestions made by President G. W. Rightmire to the deans of colleges in a letter under date of May 27, the content of which was transmitted to the chairmen on May 29. The departmental reports, as received by the Dean, are submitted with this report so that they may serve for reference and for record in detail of the departmental activities during the year.

The past year was a most satisfactory one for the College. The total registration was not quite equal to that of the previous year, falling short less than 1 per cent, however, while the number receiving degrees was 10.3 per cent in excess of that of the year before. The numerical position of the College is fifth in the list of more than 140 engineering schools in the United States.

In my report of last year the departments of Architecture and Industrial Engineering were pointed out as having marked student increases. This year Industrial and Metallurgical Engineering are the leaders, a very desirable condition for the latter department on account of the heavy demand for graduates in the metallurgical engineering field.

The Faculty of the College continues its interest and activity in all matters educational. It recognized its responsibility this year by being host to the Society for the Promotion of Engineering Education. This meeting, June 19-22, was the largest one ever held in the 36 years of the Society's existence. The registered attendance was 515. Ninety-five institutions were represented, Illinois and Purdue having the largest delegation excepting, of course, our own college. Entertainments consisting of a reception and tea at Pomerene Hall, a luncheon and bridge party, a trip to Zanesville for the ladies, a picnic supper at O'Shaughnessy Dam, and a trip to Wright Field, Dayton, were provided by the local members, assisted by some few friends of the University. Several members of the Faculty took part in the program and, incidentally, one of the most interesting lectures of the session, "By-Products of Radio," was delivered by an Ohio State alumnus, Dr. Phillips Thomas, Research Engineer of the Westinghouse Electric and Manufacturing Company.

This meeting of the Society was of special significance, since at it the Committee on Investigation and Coordination made its final report, which is the result of its several years of searching investigation in the field of Engineering Education both at home and abroad. It is claimed that the magnitude and character of this work has not been equaled in any other educational field. Our responsibility now is first to fully recognize the importance of the investigation and then to "follow-up" by making such changes in our curricula and methods as are shown to be needed. The international character of the Society is shown by its membership, representing twelve foreign countries, and by its decision to hold its 1930 meeting at McGill University, Montreal, Canada. Every teacher of engineering who hopes to continue and progress in the teaching profession should be affiliated with this national Society.

It is hardly possible for the Dean to have personal contact with all the students in the College. A much greater degree of contact is now maintained by the Junior Dean, a matter which will be referred to later in this report. The once weekly lectures to the first-year men, during the first quarter, and the follow-up talks of department chairmen have always been very helpful to the freshmen. These students have testified to that fact.

The Ohio State Engineer's Staff and the Engineers Council are activities which provide a fine cross section of the upperclass student body. Very important matters must conflict, which will prevent the Dean from attending the regular meetings of these organizations. He prizes greatly the opportunity here for guidance and counsel, and oftentimes the viewpoints of students, obtained through some discussion, have been very helpful to him.

The advanced students, through the leadership of the Engineers Council, carried through one of the most successful annual Roundups, an activity which has now become traditional in the College and which for several years has been held in the large testing room of the Engineering Experiment Station. This room is now so occupied by materials in the process of testing that another location will be necessary for this extremely important get-together meeting of the College.

As noted in the Annual Report of last year, the student attendance at the series of lectures given under the title of "Broaden out Engineers" had greatly decreased, probably on account of too many student activities and many departmental lectures. Consequently these lectures were discontinued. Another reason for the small interest was a lack of funds with which to obtain such outstanding lecturers as would attract the student body. For some time there has been a feeling that our students are lectured too much, and this fact, coupled with the extremely heavy schedule maintained, may account largely for this apparent student indifference to take advantage of opportunities of this kind.

As noted in my last annual report one very important event of last year was the creation of a School of Mineral Industries composed of the departments of Ceramic, Metallurgical, and Mine Engineering, and Mineralogy. During the past year the staff of this school has had several meetings and has been slowly organizing. The School is now bringing out a very striking bulletin relating to the enormous industrial fields which it represents. This bulletin will set forth also the exceptional opportunities which exist for young men who have aptitudes for the fields described.

The most outstanding event of the year was the creation by the Board of Trustees of the position of Junior Dean. This official was not to be an assistant dean. His duties and responsibilities were to be directed toward personnel problems relating to the lower classmen. For filling this position we "drafted" Professor Wm. D. Turnbull, of the Department of Engineering Drawing. The year's work has demonstrated to many of us that the selection was a very wise one, and I consider the College especially fortunate in having been able to secure from its staff one who is so well qualified as Professor Turnbull.

The greatest need of the College as a whole is, and probably always will be, larger appropriations for equipment. While it is recognized that special appropriations were made at the close of this last year for the departments of Electrical, Industrial and Mechanical Engineering, and also Chemistry and Physics, there are many other departments where the need is just as great.

The departments of Chemistry and Physics will need continued appropriations in order to properly equip the new available space. Of the other departments in the College I would mention particularly Chemical Engineering, which has never received any special appropriation since moving into its new quarters. The urgent needs of the remaining departments amount to about six times that which the Appropriation Committee seems to be able to allow to them from the general appropriation.

The next greatest pressing need, which concerns several departments of the College and which is most deserving on account of its age, is the completion of Brown Hall. This building was too small when constructed twenty-five years ago. An inspection of the crowded quarters in the Department of Architecture and a consideration of the need for additional space for the departments of Civil Engineering and Engineering Drawing will demonstrate the necessity for this addition. It has always been the plan to locate in Brown Hall the College administrative office which now occupies space belonging to the Ceramic Department in Lord Hall. Five years ago the completion of Brown Hall was seriously contemplated, and plans were drawn for the completion of the east wing. Another urgent need is more space for the School of Mineral Industries. The present plan to locate the College office temporarily in the south end of the New Chemistry Building will give partial relief only to the departments of Ceramic Engineering and Mineralogy. Metallurgical Engineering, too, has for several years been greatly in need of additional space. It is therefore hoped that the needs of the School as a whole may be given some thought and study which will lead to such suitable quarters as will be consistent with, and repreesntative of, the large field which this School represents.

JUNIOR DEAN

The highly constructive activities of the Junior Dean for 1928-29 are very interestingly set up in his annual report. It was pleasing to note that "Eighteen years as a teacher of freshmen and sophomores and a year in the capacity of junior dean" has given Professor Turnbull "a feeling of confidence in the earnestness and serious purpose of our engineering students and an optimistic regard of the youth of today." This feeling which, although practically unanimous in this College, I fear is not shared by some on the campus. It is only a very occasional or exceptional student who puts a "kink" in our feelings of confidence in our student body as a whole.

During the Fall Quarter the Junior Dean called to his office all freshmen for a personal and friendly interview. In the Winter and Spring quarters, although only those who were having difficulty in their subjects were called to the Junior Dean's office, many sought conferences voluntarily. These contacts, together with Professor Turnbull's attendance at many fireside sessions and his supervision of the Survey of Engineering group during the Winter and Spring quarters, will do much toward breaking down the criticism of the large institutions in comparison with the small ones that there is little if any personal contact between the faculty and the students.

It is now planned that this student contact will be further augmented by the creation of interview sections in the fundamental departments, a system that has been in operation for several years in the Department of English. Judging by the accomplishments during the first year of the Junior Dean's activities, and by that which is being planned for the future, the College con-

siders itself very fortunate to have been included in this new venture and wishes to commend highly those who were responsible for the undertaking.

ARCHITECTURE AND ARCHITECTURAL ENGINEERING

In reporting upon the activities of this Department I can do no better than quote from Professor Chubb's excellent annual report which has been submitted to the President:

"The Department of Architecture during the year 1928-29 continued in the experience of an unsatisfactory year due to the limitations of space for carrying on the instructional work. Owing to a slight decrease in enrollment, we were however able to carry on all laboratory classes in the drafting rooms of the Department, but in a very much overcrowded manner.

"The instruction in architectural design has been continued in the method used in the Ecole des Beaux Arts in Paris, and the programs for the design problems issued by the Beaux-Arts Institute of Design in New York City have been used in all possible cases. This practice gives to the student desiring to register with the Society the advantage of placing himself in competition with students in many colleges throughout the country. The work is sent to New York for final judgment, and such students as were registered have had excellent success in these competitions. James Grady and Robert Heichel, seniors, were awarded the scholarship offered by the Foundation for Architecture and Landscape Architecture and will spend the summer months at Lake Forest in competition with students from Michigan, Illinois, and Iowa for the European traveling fellowship of the Foundation. The Student Medal of the American Institute of Architects for general excellence in the entire course was awarded to Bernard F. Gayer, who graduated with the Degree of Bachelor of Architectural Engineering.

"The chairman desires to commend the fine cooperative spirit of all instructors in the department and their interest in teaching method. The weekly meetings of the teaching staff have been a self-searching study of all the educational problems of the Department. As a result of these discussions, both curricula in the Department have been recast during the year and there is every reason to believe that this year's study will be productive of improved work in the years to come. One major item of discussion has been that of extending the duration of the course to five years and, at a recent meeting, by unanimous action, the Department requested the Chairman to proceed with this important step at the earliest possible time.

"During the year four traveling exhibitions of architectural drawings were held in the Department at little or no cost to the Department. These proved a great stimulus to both instructors and students. The first of these was an exhibition of the work of the students at the Lake Forest Foundation. Two were exhibitions sent out by the Beaux-Arts Institute of Design and the fourth was the annual traveling exhibition of the Association of Collegiate Schools of Architecture. In this exhibition were nearly two hundred student drawings from twenty odd universities scattered over the entire country from the Atlantic to the Pacific. Many of the problems were the identical ones over which our own students and teachers had toiled, and the value in inspiration to both made this exhibition one of the year's outstanding events.

"The *esprit de corps* of the student body has continued in a fine spirit of rivalry between the groups of students or ateliers in competition under senior

student leaders. Each drafting room is filled with students of all classes, and the close contact thus afforded between upper and lower classmen is a material advantage to each. The help of many of the seniors in the actual instruction of the beginners is much appreciated by the Department.

"The instruction work in photography under Mr. Haskett has been carried out in the usual interesting manner, but the increasing demands for photographic service for the entire University have at times utterly swamped the limited personnel carrying on the work. Much of the equipment is obsolete and this entire work should be reorganized on a more businesslike basis and more full-time assistance should be provided, particularly with relation to the purely business aspects of the work. There can be no question as to the very excellent quality of the photographic work produced with the limited facilities at hand. Photography as an instrument of the sciences has made tremendous advances in recent years, and there have been many requests for service which the Department has not been able to meet.

"In conclusion, the Chairman desires to stress again the very great need of additional drafting-room space, office space, library facilities, and a building-materials laboratory. In spite of the physical limitations imposed by the overcrowded conditions of the department, the Chairman desires to express the belief that substantial educational progress has been made during the year.

BROADCASTING STATION

Director R. C. Higgy reports as follows:

"The broadcasting Station has continued to transmit the type of educational programs that during the past few years have met with the approval of the radio listeners of Ohio. A slightly enlarged program of service and educational information has been presented through the cooperation of the University Faculty. Fifty-two departments of instruction of the University were represented on the station's lecture program, each department giving two or more lectures. A total of 787 lectures were presented in addition to the lectures scheduled as regular features, or those given once or more each week throughout the year. Of these lectures 620 were broadcast during evening programs in series of from four to eight, constituting an extensive university radio lecture course. During the year the station broadcasted 1,222 programs and actually transmitted a total of 1,008 hours. There is such a variety in the subjects now broadcast that no one person could listen intelligently to all of the lectures. A recent survey conducted by the station, extending throughout the entire state, shows that 72 per cent of the listeners reported listening to lectures from WEAO.

"The Radio Station cooperated with the Ohio Department of Education, at their request, in broadcasting programs known as 'The School of the Air.' This was possible only through personal sacrifice of members of the station staff in adding extra work to their schedules. This program was executed in the WEAO studios and transmitted to Cincinnati over long-distance lines, not being broadcast by WEAO.

"Many special programs were broadcast during the year, such as lectures from Farmers' Week, Ohio State Educational Conference, College of Education summer-lecture series, Governor's inauguration, etc., the last mentioned being sent to stations in Cleveland and Cincinnati, making the inauguration ceremonies available to every citizen in the state.

"New studios and offices were provided for the Broadcasting Station during the year, which has enabled the Station to present programs more efficiently, and to execute the attendant details in preparing programs. A larger studio adequately provides for large university programs, such as the band or orchestra.

"The Broadcasting Station Committee early in December recommended the purchase and installation of a larger transmitting station for WEAO. This recommendation was made after a study of the radio-transmitting conditions prevailing, and on the results obtained with the present equipment. The general trend of all broadcasting stations to increase power has created a larger amount of interference, which has effectively reduced the range of the present equipment. This has been determined by a survey conducted throughout the entire state, which has shown that reliable and satisfactory reception is at present obtained in only 38 counties during the daytime and 23 counties at night. This means that the present station has a satisfactory range of approximately 60 miles, although in many cases listeners are reporting satisfactory reception beyond that distance. The reports indicate that the limitation was almost entirely due to weak signals, and that the station would be heard satisfactorily if it could be heard more strongly. This clearly indicates the need of a larger transmitting station, as recommended by the Broadcasting Station Committee. In addition, complaints have been frequently received from listeners who are unable to hear the station, although they are particularly interested in receiving the service and educational information broadcast.

CERAMIC ENGINEERING

Professor Arthur S. Watts reports that "For several years past we have noted a steady improvement in the average quality of work done in both classes and laboratories, and this year the results have been more encouraging than ever. This year the students undertook two independent and extensive group researches outside their regular curriculum duties and carried them through outside of class hours with remarkable success, indicating an enthusiasm and earnestness which is highly commendable. There has been excellent cooperation within the faculty in carrying on the work of the department, and higher standards than ever before have been demanded from our entire student body.

"The new equipment provided at the beginning of this year has been of great service in carrying on the work, and, despite the congested conditions of our laboratories, we are planning a more extensive program for the next school year.

"The placing of our students in ceramic plants during the Summer Quarter where they will obtain practical experience is being enthusiastically supported by the manufacturers, and many large ceramic manufacturers outside Ohio are asking permission to participate in this student-training work. The demand for our graduates is so far in excess of the supply that we are now placing men who will graduate next December. The demand for ceramic graduates with postgraduate training is hopelessly in excess of our facilities to train, and we cannot hope to relieve this situation with the space, equipment, and teaching staff now available or in early prospect.

"There is no demand for a poorly trained man in the field of ceramic engineering. Ohio State University enjoys the reputation of graduating the best engineers in this field, and we cannot afford to lower our standards. This means a serious mortality in the sophomore year, but cannot be avoided.

CIVIL ENGINEERING

Professor Sherman in his report emphasized particularly the value of the four-quarter plan to the Department of Civil Engineering and methods of measuring student ability. He states that the quarter plan has made their curriculum very flexible, and that this is shown "(1) by the number who adapt it to a longer curriculum than four years, (2) by the increased number who are better able to pay for their schooling, and (3) by the increased number who graduate at times other than in June."

In substantiation of the third statement above, the number of those who have graduated at times other than in June since the four-quarter plan was started is given as follows:

"Civil Engineers, 75; Electrical, 28; Ceramic, 23; Mechanical, 19; Metallurgical, 16; Chemical, 15; Architectural, 13; Architects, 11; Mining, 9.

"The Engineering College is thus availing itself of the flexibility of the four-quarter plan. No so-called 'cooperative curricula' are needed. The boys make them for themselves. This is suggested even by figures for those who graduated in June. For example, of the 25 who graduated in Civil Engineering in June, 1927, all had practical experience in their profession before graduation, ranging from 6 months to 5 years, the average for the class being 11.0 months. The average for those who graduated in June, 1928 was 18.5 months, and for those who graduated in June, 1929 was 12.8.

"Methods of measuring student ability and attainment in our classes differ with the subject taught. These are quite various, such as running the different kinds of surveying instruments, doing different kinds of drawing, pure and applied mathematics, and applications of quite a number of different kinds of technology to engineering projects. In general the student's grade for the term is made up from his laboratory work, his classroom work including problems, and from written examinations.

"With such a variety of subjects, different instructors being allowed to use their own methods, great variation in grading might be expected. I have just plotted the grades of the different instructors for the past seven years. The results are more remarkable for uniformity than for difference. The uniformity is due largely to the fact that all our instructors are experienced engineers, who know what is essential out in practice, and to the fact that we have time to teach only the essentials. Then, too, biweekly conferences, lasting on an average three or four hours, enable us to keep closely in touch with each student and his difficulties. Every student is known personally to his instructor within the first week of his attendance. As a further illustration of this acquaintance, the Chairman knows personally all but a half-dozen of more than 700 living graduates of the Department."

CHEMISTRY

Dr. Wm. L. Evans submitted an exceptionally complete report of many pages, from which I am pleased to quote as follows:

"I am firmly convinced that the Senior Staff in the Department is one of the strongest of its kind in the country. It has been burdened with too great an academic load throughout the years for it to give full expression to its scientific strength. By this I mean that the Department has grown more rapidly than its personnel.

"The outstanding event of the year has been the assembling of all the

work of the Department in one building. This has been the realization of a long-cherished dream. The authorities have already been apprised of the gratitude of the professional staff in the Department of Chemistry with reference to this splendid opportunity of being together under one roof. Obviously many advantages will be derived from this state of affairs. The spirit of the Department has already begun to show more solidarity in the problems which have confronted it this year, this being in contrast to that which prevailed under our previously separated condition. The advantages to the students in chemistry will also be very great.

"The present incomplete condition of the building leads to many hardships. In the first place, we have no place to house our second-year work. By reason of the fine spirit of those in Agricultural Chemistry, we are able to take care of the sophomore work, but in a way that was not completely satisfactory to Professor Foulk and his associates. This class had 165 students. Indeed, Professor Foulk felt that the work of the Autumn and Winter quarters was largely a makeshift. To help out in the matter, the class was transferred in the Spring Quarter to the Organic laboratory in the rear part of the new building. This was somewhat of an improvement, yet this laboratory equipment was designed for an entirely different kind of work. The most urgent need before our Department now is the completion of the fourth floor of the new building—the part which is destined to provide laboratory space for Quantitative Analysis.

"In the Advanced Quantitative Analysis laboratory, there was no laboratory work at all except in the last few weeks. Professor Foulk tried to compensate for this by holding two lectures per week instead of one.

"We were compelled to give limited laboratory facilities to one-third of our pre-medical organic laboratory students. This was due to the fact that one of our laboratories had to be given over to our advanced students. This situation will be much improved when the large laboratory on the third floor will have been completed.

"At the beginning of the academic year, the Chairman of the Department of Chemistry asked for authority to appoint a Cirriculum Committee. The work designed for this committee was that of making an exhaustive study of our various curriculum offerings. As a result of their efforts, there has been a readjustment of several of the courses to the end that our aims will be more effectively realized.

"As an example of this study, we hope to present fundamental inorganic chemistry in the year 1929-30 in a much more satisfactory manner than it has been for a number of years. This phase of our science has been very much neglected in many universities and colleges during these last few years. This has been due to the rapid growth in the borderland between physics and chemistry, that is, physical chemistry. We feel that the inorganic work is to experience a greater emphasis than it has known in the past, and we are preparing to face this fact. To meet these needs it will be necessary to make still further provision for expansion of our inorganic activities.

"One of the encouraging events of the year has been the establishment of a Journal Club by our graduate students. This organization has conducted its work entirely through the efforts of its individual members. The programs of the weekly meetings have been published in the University *Official Daily Bulletin*. There has been an average attendance of sixty at these meetings. Several professors and many students from other departments have availed

themselves of these programs as their several interests were attracted to given topics.

"At the Spring Meeting of the American Chemical Society in 1927, held in Richmond, Virginia, the joint invitation of the Ohio State University, The City of Columbus, and the Columbus Section of the American Chemical Society to hold the Spring Meeting of 1929 in Columbus was unanimously accepted. This meeting, which was held in the week of April 29, is now a matter of history. It was attended by 1,752 chemists. Every state in the Union save six was represented, and there were registrants from eight foreign countries.

"The divisional and sectional meetings were held in the New Chemistry Building. By reason of the fact that a number of the larger laboratories had not yet been equipped, it was possible to hold this large meeting under the same roof. The facilities of the University were used four half days.

"The local section of the American Chemical Society has been playing a very important part in the life of the Department of Chemistry for over a quarter of a century. It is well to call the attention of those in authority to the fact that this small group has been bringing to the campus every year chemists of outstanding reputation both from various parts of this country and from foreign lands. Our students and teaching staff profit greatly by these inspiring contacts. It should be pointed out that the services of several members of the Department of Chemistry as lecturers in other sections of our national society are constantly in demand. These requests are met as frequently as our academic duties will permit."

CHEMICAL ENGINEERING

Dr. James R. Withrow has reported briefly as follows:

"The work of the students in the laboratory was such as to compel us to give the largest number of 'A' grades we have ever given in the history of the work. In some classes over 50 per cent of the students received the grade of 'A.'

"In spite of the handicap of the unusual conditions due to the presence of the Pharmacy College, recent moving from the old building, lack of arrangements for elementary equipping of our various laboratories, we managed to get through the year without serious damage to the interests of the students, in our opinion, though we were not able to take care of our graduate students with proper working space, because of the University's lack of funds.

"In spite of the extra work and pressure entailed on practically everyone in the Department, more research was actually published from the Department this year than at any time in its history.

"All the teaching methods of this department were originated by ourselves, since we were among the pioneers in this field; indeed, until recently there were no texts, and now there are only two in the United States. As a result of the fair degree of success of these methods, there is an increased number of inquiries from various parts of the country for work in this department. This is particularly true of men in the industry who desire to take graduate degrees with us.

"Long ago all of our 1929 graduates received positions. The demand was greatly in excess of the supply. During the year just closed, 16 students received their B.Ch.E. degree, 6 their M.S. degree and 2 their Ph.D. degree.

"We believe, however, that our teaching work can be improved, and to that

end the Department has given considerable time during the year to the discussion of methods and of the best way of improving the curriculum for undergraduates in two major particulars.

"I have felt for a long time, and the Department largely agrees, that the engineering students, certainly the chemical engineering students, are worked unreasonably hard by the various departments. We should like to strengthen mathematics in our curriculum in some practical way, not by merely adding courses. I have the hope that we may find a way of getting the students to use personal initiative in their first introduction to research in their thesis course. The work done in the past has brought considerable reputation to the Department, but I do not feel that all of the students are getting out of this research what they should, largely because of the pressure of other departments, which tends to make them neglect this work in the Department as soon as we throw them on their own resources and cease to 'crack the whip' over them. This I consider one of our biggest problems. Any cure will involve the complete reorganization of our curriculum. One hesitates to use such strong methods, especially in the face of the well-known success of our graduates. When the pressure under which we now live ceases, I propose to go into this matter thoroughly."

ENGINEERING DRAWING

The report of Professor T. E. French not only relates to the organization of work of that department, but also speaks of the crowded condition in Brown Hall. I quote as follows:

"The largest part of the work of the Department of Engineering Drawing is connected with the College of Engineering, but at their request required courses are given for the College of Agriculture, Commerce and Administration, Dentistry, Education, and Pharmacy.

"Course 401 for all freshman engineers is so efficiently organized that the Chairman feels it can be cited as a model for the conducting of large sections. It is under the direct management of Professor Meiklejohn, in whose office all laboratory work is laid out, and all examinations are both prepared and graded, insuring complete uniformity for all sections. The assignments of topics and text for lecture work are made in the weekly departmental meeting, and it is usual to have one of the older men given an outline of his method of presentation of the lecture on each subject. This is followed by discussion and criticism, other instructors telling of effective methods they have used in handling the particular subject. These experiences and ideas are found very helpful by the younger instructors. Each new instructor coming into the department is assigned to sit in one of the lectures of an older instructor throughout his first year. The problems and drawings in 401 (as in all other courses in the Department) are changed each year, and, we believe, the course is constantly being improved. Grading is done on an absolute rather than a relative standard, so that the percentages of grades from A to E vary from year to year. Display cases in the corridors are kept filled with the best examples of work from the various courses.

"An exhaustive study of the application of objective tests to the subject of engineering drawing has been made this year by Dr. C. V. Mann of the Missouri School of Mines, and it is expected next year to try out the system in Course 401. The Chairman has used this type of examination successfully

in the course in Principles and Practice 751 (The Teaching of Engineering Drawing).

"The department has been somewhat handicapped and its efficiency impaired on account of lack of drawing room space, and some classes have had to go to borrowed rooms in other buildings. There is only one room equipped with large tables for advanced work. As the class in 421 increases for the coming year from 90 to 140, this room will be overtaxed. At the present rate of growth, the quarters of the Department will be entirely inadequate within two years."

ELECTRICAL ENGINEERING

Professor F. C. Caldwell reports the activities of the Department quite fully, from which I quote as follows:

"The small appropriations available during the past year have permitted little more than the maintenance of the equipment. Exceptions have been the construction in the department shops of several interesting devices for lecture-room demonstration of phenomena associated with telephone and radio communication. These are inventions of Mr. Everitt, who demonstrated some of them before the electrical engineering conference of the Society for the Promotion of Engineering Education at their recent annual convention here. The equipment of the Communication Division has also been strengthened by the donation of a considerable amount of large telephone cable and other equipment by the Bell Telephone Organization.

"Mention should be made of the considerable decrease in the number of students completing the Electrical Engineering course. Thirty-one graduated in June, 1929, as against forty-seven in June, 1928. This does not accurately represent the situation, as there will probably be more graduating at the three mid-year convocations than was the case last year; over fifty students have been taking senior work during the year. Still the decrease is considerable and should be accounted for. In comparison with the other engineering courses, the numbers in Electrical Engineering have been abnormally large during recent years, at one time about twice the next largest engineering group. This has probably been largely due to the popularity of radio among high-school boys. Now radio is becoming an old story, and another interest, aviation, is becoming dominant. This interest tends to lead the boys into the Mechanical Engineering course, where the number is increasing. Another cause of shrinkage is the recent establishment of two curricula, Industrial Engineering and Engineering Physics, both of which draw from the men that formerly became Electrical Engineers.

"The situation with regard to graduate students is gratifying. During the year the Robinson Fellowship has been held by J. D. Ryder, who has been working under Professor Everitt. The same fellowship for next year has been awarded to E. R. Robinson, who graduated in June. During the year eight graduate students have carried their majors in Electrical Engineering. One Doctor's and six Master's degrees have been awarded. It is particularly gratifying that our two first choices for assistants, to work also for Master's degree, both accepted our offers. I believe that until this year this has not occurred since the war. It indicates an improving attitude toward University work as an occupation.

"The alumni of the Department now number approximately nine hundred. It is a matter for especial satisfaction that the Sullivant medal was for

the second time awarded to an Electrical Engineer, Mr. C. F. Kettering, and that he was also the only alumnus to receive one of the three honorary degrees awarded at Commencement. At this point mention may be made of the thirteen professional degrees of 'Electrical Engineer' awarded at the June Commencement; this was out of a total of twenty-five granted. Many of the theses presented are excellent and a few are of a character to make them suitable for use as Experiment Station bulletins. Three had already been published, one as a station bulletin.

"The work done by The Student Branch American Institute of Electrical Engineers under its Chairman, R. H. Spry, is worthy of comment. This is an entirely voluntary organization participated in by the majority of the senior and junior students and by a few sophomores. This number should be larger. There is a provision for including freshmen as associate members, but so far there has been little result from this. Dinner meetings only are held at intervals of about two weeks. Some meetings are addressed by outside speakers and some by students; the students should take more part in the programs. A notable event of the year, conducted entirely by the students, was a convention of the Ohio Student Branches. Student delegations present from Case School, University of Akron, Ohio Northern University, and Ohio University ranged in number from nine to twenty-eight. One hundred and ten persons participated in the dinner meeting and 160 in the technical session Saturday morning. This was the first student convention to be held in Ohio, and the first anywhere managed entirely by the students. It was quite successful and will doubtless become an annual event here.

"The publication of honor lists for men with point-ratios above three has been continued with general satisfaction and the giving of conference courses to such men produces good results. It is desired to see these students avail themselves more extensively of this method of instruction.

"The Department again received the cooperation of the Graduate School in bringing a lecturer to the campus. This year it was Dr. Richard L. Nichols, Emeritus Professor of Physics at Cornell, who lectured on some researches he has been making on the cause of luminescence."

INDUSTRIAL ENGINEERING

Professor John Younger reports that the addition to the Department last year of an assistant, Mr. Paul N. Lehoczky, is proving very valuable to that department. The assistance given through caring for examinations, mid-terms, and assignments, has proven such a relief that it has been possible to increase the assignments to students. Not only has Mr. Lehoczky been very valuable in this direction, but his qualifications are such that he has been able to fill the places of other members of the staff who were absent because of sickness or for other reasons; thus the work of the department has gone on uninterruptedly. During the year a new course on "Principles and Laws of Management as Applied to Engineering" was introduced for the first time. This course proved valuable in that the students gained considerable fundamental knowledge of their industrial work. The methods of teaching in this department are planned so as to give the students as much practical information as possible. Practical examples are developed in the work of the shop courses. Professor Younger feels that in the industrial engineering university work it is of great value to have the shops connected with the Department so that the

lecture courses are the logical outcome of the work of these shops. The Department endeavors to make sure that the students are getting a clear understanding of that which is being taught; consequently there is no hesitation about spending considerable time in the different phases of the work in order to accomplish that result, rather than hurry through on some schedule time with loss to the students. The Department's belief is that the student should be given instruction in a clear understandable fashion.

Mention is made of an especially valuable piece of research work, carried on by five students, relating to work done by milling machines. Professor Younger states that it is becoming more and more important to obtain maximum production from machine tools, and that this particular research gives considerable data which will be of value to large classes of machine-tool users. Furthermore it will render possible a greater degree of accuracy in the course of doing important work. This research was done through the cooperation of the Cincinnati Milling Machine Company and the Engineering Experiment Station.

Professor Younger reports that meetings of the Department were held each month at which different problems were discussed and decisions reached. He further reports that in the Department the *esprit de corps* has been greatly increased; that the student body is like one large family working together, each student trying to do his best.

MATHEMATICS

"The graduate and research work of the Department is progressing satisfactorily. At the present time there are nine students working toward the Ph.D. degree, six of whom expect to get this degree at the end of the coming year or soon thereafter.

"During the year Professor E. R. Hedrick of the University of California at Los Angeles, Professor G. D. Birkhoff of Harvard University, and Professor G. H. Hardy of the University of Oxford, England, gave important lectures at the University. Professor Hedrick lectured on 'Approximation Processes in Mathematics and in Science,' Professor Birkhoff lectured on 'The Mathematical Bases of Art,' and Professor Hardy lectured on 'The Theory of Prime Numbers.' These lectures were well attended by members and students of this and allied departments of the University, and also by a number of mathematicians from various Ohio colleges. The lectures by Professors Birkhoff and Hardy were given under the auspices of the Graduate School; that by Professor Hedrick was given under the auspices of Sigma Xi Society and Pi Mu Epsilon Honorary Society.

"One of the pressing needs of the Department of Mathematics at the present time relates to better housing conditions. In the judgment of the members of our department this need can be accomplished best by means of a building for the departments of Mathematics and Physics."

MECHANICAL ENGINEERING

Professor Wm. T. Magruder's report of the activities of his department is quoted as follows:

"The greater use of student assistants has relieved the instructors of much work which can be satisfactorily done by students. It also gives additional education and training to students themselves and brings them into

closer contact with the instructors whom they assist. It broadens their knowledge of mechanical engineering and makes for greater loyalty and unity in the Department.

"Because of visits to the New York and Chicago Power Shows, and a study of technical periodicals, and by personal contacts with persons in industry, the members of the Department have been able to discover and secure many *models and samples* of engineering machinery, appliances, and materials. We have found that if we will offer to meet the manufacturers half way, we can secure valuable exhibits by agreeing to stand the expense of sectionalizing and mounting them where they can be seen by both students and visitors. This practice has now become quite systematized and has caused our laboratory to become quite unique in its equipment of museum material for instructional purposes.

"Thanks to the gift of a lantern and the occasional gift from two or more companies of films, we are beginning to use the method of visual education by still pictures. We purpose fitting up more of our lecture rooms for this kind of instruction during the coming year.

"Thanks to the Bailey Meter Company and to two or three other companies, an increasing amount of research work has been accomplished during the past year by the instructors in the laboratory with the paid services of certain students. Other results than the helping of a few students to earn some money while getting engineering experience have been the preparation and publication of more Engineering Experiment Station bulletins; the impression made upon the students that the services of the instructors are in demand by the industries; the observation of many students that our equipment is of practical as well as theoretical value, with the resultant awakening of their interest in engineering research; and, lastly, the greater use of our equipment for research work in solving engineering problems. By these means, the industries have been brought into closer contact with the Department and the Department with the industries, with much benefit to both. The practice should be continued and enlarged, even if it means the further lightening of the teaching load of the instructors concerned.

"Inquiry has been made by alumni and others, why this department is graduating fewer students than it did a few years ago. The answer is easily given; first, that students desiring a less rigid, mathematical, and difficult course do not study engineering but go into one of the other colleges; second, that the formation of a curriculum and the normal growth of the Department of Industrial Engineering has naturally decreased the number of students in Mechanical Engineering.

"So long as the demand for graduates in both Mechanical and Industrial Engineering continues to be many times the supply, as has been the case for the last ten years, the chief problem before the College is not what curriculum a student prefers and decides to take, but how best the College can make known to the high-school officials and graduates and to employers in industry that the openings in industry and the opportunities for service and for living a happy and contented life are far in excess of the supply of those persons who can qualify and make good. As I see it, this is a real live subject, and one demanding missionary and educational work for the benefit of both those youth and advisers of youth who are ignorant of the facts and of the industries desirous of obtaining the services of experts."

METALLURGY

Professor D. J. Demorest submits a brief report as follows:

"The matters of outstanding interest in the Department of Metallurgy for the past year are: first, the organization of the School of Mineral Industries; second, the increase in beginning students in Metallurgy, which this year amounted to nearly 100 per cent; third, the development of a new method of handling our sophomore laboratories. Instead of each professor's supervising solely his students in their laboratory work, each faculty member of the Department is assigned periods when he spends all of his time in the laboratories where sophomore students are working. This has led to much more satisfactory supervision of the students and more efficient use of the instructors' time. The fourth point is that we have noted an unusually good morale this year. This may be due to the extra efforts of the department faculty; or it may be the result of larger numbers, or Freshman Week, or an unusually good class of students, or just a better attitude on the part of university students in general, due to the fading away of the post-war results."

MINE ENGINEERING

The report of Professor H. E. Nold sets forth fully not only his departmental methods but, to a greater degree, the very valuable work he has been directing and in which he has had active participation, namely, night vocational schools for miners in Ohio mining districts. I quote as follows:

"While in the main the Department continued the methods of teaching developed through years of experiment, yet the members of the teaching staff are continually trying to find means of improving the presentation of material in the classroom. The course 'Methods of Mining' has always been difficult to present in such a manner that the students can get a clear grasp of the subject. This is probably due to the fact that the students are required to visualize in three dimensions and is complicated by the facts that textbooks are not up-to-date and that many of the illustrations in the literature are intended for men familiar with mining and, hence, frequently do not show enough views to make the method discussed understandable to students. During the past year Professor H. E. Nold has attempted to make this subject clearer to the students by the use of quite a number of carefully selected lantern slides in the classroom. This method certainly has the effect of stimulating the interest of the students; but so far no way has been found by which the student can take adequate and satisfactory notes during the class hour so as to have the material necessary for proper home study.

"The enrollment in mine engineering, here as well as in most other mining schools, particularly in the eastern United States, continues below normal. Only three students graduated this year, and no increase is anticipated for next year. There are several agencies operating which indicate that the enrollment in mining will soon increase. They are, first, the demand for men graduating in mine engineering, which far exceeds the supply; second, the appointment by the American Mining Congress of a committee to study ways and means of bringing young men to a realization of the need of, and opportunities for them in Mine Engineering. This appointment was the result of a thorough discussion of the entire situation at a meeting of coal mine operators (employers) and mining engineering educators at a recent convention of the American Mining Congress in Cincinnati. Third, the Fuel, Power, Transportation, Edu-

cational Foundation of Columbus, Ohio, is printing a pamphlet clearly outlining the needs and opportunities for mining engineers in the coal-producing fields and summarizing the qualifications for success in this field. This little booklet will be distributed widely, both in Ohio and neighboring states, to high-school teachers and students.

"The Department of Mine Engineering continues to function as a service department by teaching surveying to students of Metallurgy and Ceramics. At the request of the Department of Civil Engineering the mining department will, next year, act as a service department for students of Civil Engineering by offering a course in 'Explosives and Rock Work,' especially to meet their needs.

"By the action of the Board of Trustees of the University, in the summer of 1928, the Department of Mine Engineering, through Professor H. E. Nold, was authorized to cooperate with E. L. Heusch, Supervisor of the Division of Trades and Industries, State Board for Vocational Education, to establish and operate Night Vocational Schools for miners in Ohio mining centers.

"The division of the work agreed upon is as follows: The salaries of the instructors are to be paid from Federal funds under the jurisdiction of Mr. Heusch, who also makes arrangements with local school officials for the use of schoolrooms in which the classes can meet. The outline of courses of study, the direction of the educational features, and the providing of class demonstration equipment is in the hands of Professor Nold.

"During the school year 1928-29, two full-time and two part-time instructors conducted twelve schools in the following centers; Amsterdam, Steubenville, Neffs, Shadyside, Powhatan, Adena, Byesville, New Lexington, Corning, Glouster, Chauncey, and Nelsonville. Each school met for two hours one night per week for forty weeks. The enrollment at the beginning was about 380 and at the end about 200. This is not an unusual loss in enrollment in this type of work and seems very encouraging to those in charge. No tuition was charged and the total cost per man, for pamphlets and blue prints, was less than two dollars for the season. This work has aroused a considerable interest in the mining centers of Ohio, and a number of inquiries regarding the work have been received from neighboring states. Presidents, general managers, and superintendents of mining companies have not hesitated to say that their men have been benefited by attending these classes and have asked for a continuation of the work.

"The plans for next year contemplate two full-time instructors teaching ten schools. Requests have been received for the establishment of several more than ten schools, but due to the relative ineffectiveness of part-time teachers it was thought best to use only Mr. R. S. Wheatley and Mr. A. W. Seabright, as full-time instructors next year. Another gratifying element has been the large percentage of the men in the classes this past year who have requested a continuation of the work for another year. A second year's work has accordingly been arranged, and next year about one-half of the classes will be studying second-year work.

"The first year's work consists of an elementary study of Physics and chemistry so far as needed for an understanding of mine gases and ventilation. This is followed by a study of mine gases, each one being studied as to composition, occurrence, source, physical properties, chemical properties, explosibility, detection, effect on flame of lamp, effect on men breathing it, and safe means of removal from the mine. The year's work ends with a study of mine

ventilation and air coursing. In addition to the above, the classroom work includes arithmetic, mining law, and safety practices.

"The second year's work is outlined to include a study of geology and coal formation, constitution of coal, mine drainage, explosives and their use in mining, mine transportation, and coal-mining systems. The students this last year, 1928-29, included men from general managers to mine laborers, both American and foreign born and ranging from high-school age to about 55 years old. This is a field where much good can be done, and the University should be congratulated for entering this line of endeavor for the benefit of such a large group of the citizens of Ohio.

"The Department of Mine Engineering has been cooperating with E. W. Smith, Chief Inspector of Mines, and his deputy inspectors in an educational way by giving talks to groups of miners and inspectors, by delivering a paper at the All-Ohio Safety Congress, and by preparing material which was used in the examinations of mine foremen and fire bosses."

MINERALOGY

No report has been received from the Chairman of this Department.

PHYSICS

The following are excerpts from the excellent report of Professor Alpheus W. Smith, Chairman of the Department of Physics:

"The increase in registration is more rapid in the advanced undergraduate and graduate courses than in the elementary courses. The registrations in advanced courses have doubled in the past three years. The interest in this phase of our work is such that this rate of increase will in all probability continue for a number of years. The increasing demand for physicists in the industries and the increasing interest in physics aroused by recent developments in this science are responsible for this rapid growth.

"The demand for advanced undergraduate and graduate courses during the Summer Quarter comes largely from teachers in colleges and secondary schools and graduate students who are teaching part time during the remainder of the school year. The Summer Quarter should offer an excellent opportunity for the continuation of graduate work for students of this type and with that in view our program for the quarter must be strengthened and elaborated. Provision for the addition of two or three visiting professors of outstanding ability to the departmental staff during the Summer Quarter would do much to meet this need and to make this phase of our work thoroughly successful.

"The selection of our permanent teaching staff is being made on the basis that a thoroughly successful teacher must also maintain his interests in the advances of physics and make contributions to some part of that science. We are therefore making a serious effort to provide adequate facilities for all permanent members of the departmental staff to carry on research work on some important problem in physics. We know of no better way to guarantee the continuous growth of our instructors over a period of years. The amount of research work being done by graduate students in the form of theses and dissertations increases from year to year, and their direction and supervision make new demands on the time and energy of the teaching staff.

"Considerable attention has been given during the year to a number of problems associated with the improvement of instruction in the elementary

courses. The size of the sections has been somewhat reduced to bring them nearer the size most suitable for effective teaching. Each year, however, we fail to realize our ideal in this respect because of the continued increase in the number of registrations in physics. We have been able in nearly all cases to provide two instructors for each laboratory section in which there are as many as thirty students. This provision has insured each student's receiving sufficient attention to make the laboratory work effective. The chief gain in classroom instruction has arisen out of the fact that we have secured four instructors who have already completed the work for the Ph.D. degree and have had some experience in teaching. This requirement makes a Ph.D. degree or its equivalent a condition for appointment to an instructorship and is insuring that only men of satisfactory training are placed in full charge of our classes. Graduate assistants are used only in the laboratory. Assistants with at least an A.M. degree and one year of experience in teaching are used in either the laboratory or quiz sections. There is one exception to this rule; it arises out of the fact that we have been obliged to give an elementary course for students of agriculture to a well-trained assistant with two years of graduate work and good teaching experience.

"For some time we have been convinced that the instruction in our elementary courses as planned for the College of Liberal Arts was not fully adapted to the needs of those students who take physics as a part of a liberal education. It seemed that a greater attempt should be made to give a non-mathematical survey of the field of physics with special reference to other fields of scientific knowledge, to show the applications and influence of physics in our modern civilization, and to present in a more systematic manner the outstanding recent discoveries in the field of radiation and atomic structure. With this thought in mind, the courses known as Physics 401-402 have been reorganized, and careful attention is being given to the development of these courses to make them an effective and essential part of a liberal education. The modifications of those courses to meet this need as we understand it have only begun. Much more remains to be done, but in a few years we think these courses will make a decided contribution to the intellectual life of every student taking them as part of a liberal education. Better facilities for laboratory work and demonstration experiments will be required for success in this undertaking.

"In the death of Professor A. D. Cole, the Department of Physics has sustained a severe loss. Professor Cole had been so intimately and effectively identified with the work of the Department of Physics that it is difficult to proceed without his stimulation and counsel. To encourage and develop still further the important work to which Professor Cole gave his life, plans to raise a fund of $50,000 are now well under way to establish a memorial library in the Mendenhall Laboratory of Physics. This library will be known as the Alfred Dodge Cole Library of Physics. Mr. C. E. Skinner of the Westinghouse Manufacturing Company is acting as Chairman of the Memorial Committee. Professor F. C. Blake represents the Department of Physics on the committee and is giving much attention to the work of raising the necessary funds for this purpose. This library will greatly facilitate the research work and the teaching in the Mendenhall Laboratory of Physics.

"Considerable time and attention has been given to preparing plans for making the space now occupied by the Department of English in Mendenhall Laboratory of Physics available for laboratories for the Department of Physics.

The congested conditions under which the instruction in some of our laboratories and the research work of the Department have been done can scarcely be imagined except by those who have actually been engaged in the work and have had an opportunity to compare our conditions with those in the laboratories of other good universities. No requirement is more essential for the improvement of our teaching and research than provision for additional space and the equipment to go with it.

"With the aid of funds provided by the Graduate School, it has been possible to bring to the University two outstanding European physicists for special lectures. They were Professor A. Sommerfield, Director of the Institute of Theoretical Physics, University of Munich, and Professor W. Heisenberg, Professor of Theoretical Physics, University of Leipzig. Professor Sommerfield gave two lectures, one on 'Conduction of Electricity in Metals' and the other on 'Modern Aspects of the Theory of Atomic Structure.' Professor Heisenberg's lecture was on 'Some Applications of the New Quantum Mechanics.' These lectures were very stimulating and brought to the Department of Physics an intimate contact with two men who are doing pioneer work in theoretical physics."

ENGINEERING EXPERIMENT STATION

During the year just closed the Engineering Experiment Station has been very active in fulfilling the purpose for which it was established, "to make technical investigations and to supply engineering data which will tend to increase the economy, efficiency, and safety of the manufacturing, mineral, transportation, and other engineering and industrial enterprises of the state and to promote the conservation and utilization of its resources."

PERSONNEL

The Advisory Council consisted of Professors D. J. Demorest, F. W. Marquis, Clyde T. Morris, Alpheus W. Smith, A. S. Watts, James R. Withrow, and the Director, E. A. Hitchcock. The council members and Mr. J. M. Weed, secretary, met regularly each month to consider the activities and policies of the Station. In addition, a number of special called meetings were held.

Professor J. A. Bole was signally honored by election to the presidency of the American Ceramic Society. In June Professor Bole received the honorary degree of Doctor of Science from Alfred University, Alfred, New York.

Professor F. H. Eno was re-elected chairman of the executive committee of the Highway Research Board. Professor Eno has described the soil research at the Engineering Experiment Station at meetings in Cleveland, New Orleans, Chicago, and Jacksonville.

Several reports of certain activities of the Engineering Experiment Station have been made to interested organizations. J. M. Weed, assistant to the Director, gave a talk on the State's facilities for research available to industry at the Ohio Manufacturers' Association annual meeting in Cleveland last November. The value of Station researches was described in a report made to Dean William McPherson for presentation to the Ohio Legislature. The Director prepared a discussion of the Station's work bearing on service rendered to industry for the engineering section of the Association of Land-Grant Colleges and Universities. He also prepared a statement relating to the direct value of engineering research to agriculture for an experiment station committee of the Association.

The Engineering Experiment Station radio talks from Station WEAO have been given twice a week. Members of the Station staff and of the College of Engineering faculty have presented a vast amount of interesting material from their research work and engineering experience. Some of the talks will be published as circulars or as articles in the *Engineering Experiment Station News* and *Ohio State Engineer*.

Additions to the staff have been made possible with increased support of the Station. At Columbus the work on certain projects has been furthered by the junior research engineers working under the direction of members of the faculty in charge of projects. R. L. Galley, a graduate of the University of Michigan, has been assisting in the study of the flow of fluids in pipes; O. N. Essex has been working with Professor C. E. Sherman on Ohio Stream Flow, and B. Park Hess has been assisting in Projects 90 and 91. Dr. H. K. Mitra, holder of a fellowship of the Government of Bengal, has been given the right to use the Station facilities as guest investigator.

The staff at Roseville has been strengthened by the appointment of H. C. Harrison as senior research engineer, and R. E. Birch, junior engineer. D. B. Hall and Tajamul Husain are working on the problem of producing light-weight clay building material, a project sponsored by the Structural Clay Tile Association.

I wish to commend highly the enthusiasm shown and the conscientious efforts put forth by all members of the station staff. Their great interest in the station's activities, backed by constant application, has produced a morale and solidarity in the Department which would be almost impossible to excel. Of this staff I would mention particularly J. M. Weed, Assistant to the Director, who has now served for two years in that capacity. His initiative, his intense interest in the work and development of the Station, and his ability to assume those responsibilities which naturally belong to a position of the kind he occupies are worthy of an expression of strong appreciation on the part of the Council and Director.

STATION PUBLICATIONS

Information from the Station's researches was published during the year in the following bulletins and circulars:

Bulletin 42, *The Design of Armatures for Small Direct-Current Motors*—A. F. Puchstein.

Bulletin 43, *The Angular Distortion of Crank Shafts*—C. A. Norman and K. W. Stinson.

Bulletin 44, *Glass Tank Refractories and Their Chemical Relationship with Molten Glass*—Kai Ching Lu.

Bulletin 45, *Effect of Multiple Ignition on the Performance of a Small Engine*—H. M. Jacklin.

Bulletin 46, *The Carbonization of Ohio Coals*—D. J. Demorest.

Bulletin 47, *A Method of Predicting Illumination from Light Courts*—K. Y. Tang.

Circular 15, *Owning a Home*, a Symposium. This circular has been widely distributed. Mr. John F. Fergus, vice-president of the Ohio Building Association League cooperated on this project, and has suggested another study of great interest to the home builders of Ohio, "Reasonable standards for small dwelling construction."

Circular 16, *An Endurance Testing Machine for Belts*—C. A. Norman

A twenty-page mimeographed illustrated preliminary report of the Station's facilities and activities was prepared in the fall of 1928. A complete

description of the Engineering Experiment Station is now nearly ready for printing.

The monthly mimeographed *Activities Bulletin*, begun in March, 1928, was well received. Because a magazine of larger and more general circulation was desired the printed *News* was started in April, 1929. Each month 3,000 copies are sent to Ohio manufacturers, officials, and others interested. This magazine enables preliminary reports of investigations to be quickly made available for use. The reception to the *News* has been very cordial.

NEW PROJECTS

Additional research projects are authorized by the Advisory Council at nearly every meeting. During the year the following projects were established:

82. Change of Volume of Fired Porous Bodies. Investigators, G. A. Bole and A. S. Watts.
83. Dissociation Changes Developed in Various Clays During Process of Firing. Investigators, G. A. Bole and A. S. Watts.
84. Development of Commercial Enamels for Cast Iron and Steel. Investigator, R. M. King.
85. Modern Milling Cutter Efficiency on Commercial Materials. Investigators, John Younger, W. A. Knight, and O. D. Rickley.
86. Gearing and Gear Pumps. Investigator, C. A. Norman.
87. A Study of Structural Clay Building Tile for Floor Construction. Investigators, Clyde T. Morris and H. D. Foster, Structural Clay Tile Association cooperating.
88. Oil-Bearing Shales of Ohio. Investigators, Wilber Stout, G. A. Bole, D. J. Demorest, and W. J. McCaughey, in cooperation with State Geological Survey.
90. Universal Electric Motors; Their General Properties, Performance, and Design. Investigators, A. S. Fuchstein and E. E. Kimberly.
91. Speed of Vision as Affected by Color of Lights. Investigators, F. C. Caldwell and K. Y. Tang.
92. The Effect of Engine Variables on the Detonation of Gasoline. Investigator, K. W. Stinson and C. P. Roberts.
93. Precise Leveling in Ohio. Investigators, E. F. Coddington and O. J. Marshall.
94. Preservation Treatment of Fence Posts. Investigator, N. W. Scherer.
95. Preservative Treatment of Ties and Other Timbers. Investigator, N. W. Scherer.
96. Vacuum Evaporation of Salt Brines. Investigator, James R. Withrow.
97. Cold Crushing Strength of Refractories. Investigator, Himansu Kumar Mitra.
98. A Fundamental Study of Vitreous Enamels. Investigator, R. M. King.
99. Holding Power of Joints on Ball and Spigot Cast-Iron Pipe. Investigator, John C. Prior.
100. Ohio Coal Investigations. Investigators, H. E. Nold, F. W. Marquis, and D. J. Demorest, and Wilbur Stout, State Geologist.
101. Tests of Propeller Fans. Investigator, A. I. Brown.
102. Fundamental Basis for Time Study Averaging. Investigator, John Younger.
103. A Study of the Causes of Adherence of Scale in Steam Boilers. Investigator, C. W. Foulk, in cooperation with Boiler Feed Water Studies Committee.

STATION FACILITIES AND SERVICE

The Station's laboratory facilities have been improved during the year, particularly by the completion of a fire-test furnace, the installation of a motor-generator set, the equipment of the ceramic laboratory, and the connection of steam to the timber treatment laboratory

The experimental clay-products plant at Roseville has become a source of authoritative information for Ohio manufacturers of heavy clay wares. Investigations carried on at this plant include a study of drain tile manufactured in Ohio (nearly ready for publication), accelerated tests of glazed brick, the manufacture of dry pressed refractory brick, a study of the clays on the Welfare Department property, use of electrolytes in clays, and a fundamental study of sewer pipe. Two engineers supported with funds from the Structural Clay Tile Association, studying methods of producing light-weight clay tile, have obtained extremely interesting and promising results.

Increased usefulness of the Engineering Experiment Station to the state of Ohio is promised by recent agreements. At the request of the State Purchasing Agent, the Station agreed to assist in the purchase by specification of goods for state institutions. Through the laboratory of Professor D. J. Demorest, arrangements have been made for sampling and testing of coal.

The Ohio Coal investigation, Project 100, was established for cooperation with the Department of Industrial Relations which is interested in stimulating the use of Ohio coal. Accurate information regarding the quality and use of Ohio coal will be obtained by tests and issued through Station publications.

COOPERATIVE RESEARCH

Work on a large number of projects has been carried forward rapidly with the increased resources of the Station. Cooperative research has also been important. The Structural Clay Tile Association furnished more than $10,000 during the year for the building of a fire-test furnace, the expenses of tests, and the hiring of research engineers. The Ohio Department of Highways now furnishes two engineers for the soil investigation. Supplies for certain projects were furnished by a number of companies. The Bailey Meter Company has provided assistance for the study of the flow of fluids in pipes.

Cooperative fellowships were maintained by the Electric Porcelain Manufacturers' Association, The Aluminum Company of America, The American Institute of Steel Construction, and the Calcium Chloride Publicity Committee. The Station and the Columbus Branch of the U. S. Bureau of Standards, were joint donors of three fellowships in ceramic engineering.

PLANS FOR INCREASED SERVICE

The value of the Roseville experimental clay products plant to the heavy clay industries of Ohio has shown the great need for a similar laboratory to assist the porcelain manufacturers of the State. A white-ware laboratory should be established at the earliest possible opportunity.

The formation of two advisory boards has been suggested to further the work of the Station. As a guide to the complete solution of problems, a Technical Advisory Council composed of scientists and professors in all branches of engineering would be helpful; such a council may be recommended soon by the Advisory Council. To assist in bringing the problems of Ohio industry to the Station and in carrying solutions to Ohio manufacturers, an Industrial Ad-

visory Council composed of representative manufacturers, business men, and officials might be valuable.

The Engineering Experiment Station is endeavoring to render service to the citizens of Ohio and to advance the best interests of the University in research, teaching, and the training of scientists. The cordial cooperation of administrative officials and of members of the teaching force has been greatly appreciated.

THE COLLEGE OF LAW

Dean, H. W. ARANT

ENROLLMENT

The enrollment for the year 1928-29 compared with that for the preceding year was as follows:

	1928-29	1927-28
Autumn Quarter	307	298
Winter Quarter	286	280
Spring Quarter	277	261

FACULTY AND CURRICULUM CHANGES

Professor Robert E. Mathews was on leave of absence during the present year as a visiting professor in the Columbia University Law School. His place has been taken for the present year by Professor Silas A. Harris, a graduate of the University of Chicago Law School, a member for eleven years of the Omaha, Nebraska, bar, and a member of the University of Idaho Law Faculty. The Board of Trustees in the summer of 1928 created two additional professorships which, including the Dean, brought the number of the faculty up to ten. To fill the two places then created by the Board of Trustees, Professor Harry W. Vanneman, formerly of the law faculties of the University of South Dakota and of the University of Missouri, and Professor Joseph M. Cormack, of the Emory University Law School faculty, were called.

These additions to the faculty have made it possible during the present year to reduce the teaching load somewhat, to add certain important courses not offered heretofore, and to enlarge certain courses previously given to which it had not been possible to devote enough time. As illustrations of the latter, the course in Contracts was lengthened from 8 to 12 quarter hours; Agency, Civil Procedure, Conflict of Laws, and Trusts were each lengthened from 4 to 6 quarter hours. This is not a complete list, but it is illustrative of the type of imperative need that the enlarged faculty has made it possible to satisfy. Among the new courses added are Bankruptcy, Oil and Gas, Criminal Procedure, Office Practice, and Practice Court.

The courses in Office Practice consumed all of Professor Laylin's time during the Winter Quarter. It consisted of the drafting by individual students of various types of legal documents, each document being based on a special problem assigned to each student. Lawyers to whose attention this course has come have expressed the view that it is a very important type of practical training that law schools have heretofore generally neglected. The same view has been expressed concerning the course in Practice Court. Professors Hunter and Harris have devoted most of their time during the Spring Quarter to this work. It consists of the preparation and handling of cases from their beginning to the Appellate Court by each student. Investigations of states of facts that have been planned are made, pleadings are drafted, the cases tried, and the record prepared for the Supreme Court. In each of these courses the training is highly individual in character. Before the enlargement of our staff such work was not possible. It is regarded by our faculty and by those members of the bar who know of it as not only worth while but distinctive of our

school. Neither of these courses, however, would show up well upon a computation of the cost-per-student credit hour, but it is believed that it should be continued and improved in every way possible.

During the present year the Board of Trustees authorized the creation of an eleventh professorship in the law faculty. This has been filled by the appointment of Professor Silas A. Harris referred to above. We were in special need of a man to handle procedure and practice, and for this Professor Harris has a special liking as well as an excellent training. Having tried him for one year, the faculty were unanimously of the opinion that this department of our work would be strengthened by his retention. Professor Robert E. Mathews will return from his leave of absence and resume his work in September. Professor Cormack has accepted a position at the University of Southern California Law School; and Professor Lester W. Feezer, of the University of South Dakota Law School faculty, has been called as Visiting Professor for next year to replace him.

So far no available person has been found that the faculty has been willing to call as a permanent appointee for that position created in the summer of 1928 for which a salary of $7,500 was authorized. It is for this reason that Professor Feezer was called on a one-year arrangement. It is hoped that during the coming year an outstanding man may be secured to fill this position. The fact that there is in the faculty at the present time a relatively large percentage of young men appears to make it desirable to continue our search until such a man is secured.

PROGRAM FOR THE FUTURE

At the present time the first-year law class is divided into two sections. These sections run about sixty in size and are fully as large as they should be. The second and third-year classes, in a good many courses, are considerably larger than this, some of them running up as high as eighty-five. In order to relieve this situation somewhat and also to enable the more brilliant students to progress according to their capacity, it has been decided to introduce into the curriculum the coming year a small number of courses of the seminar type. This experiment has been tried in some of the eastern schools where there is considerable enthusiasm about the results obtained. In such courses the student works much more independently than in the orthodox type of law course. Only those students are admitted whose record indicates capacity for such work. To the extent to which students are enrolled in such courses, they relieve the size of the regular course in the particular subject.

It is also planned during the next year to attempt the beginning of a closer correlation between law and the social sciences. There are places in the law where the economic and sociological effects of legal principle are obviously quite important. In such places, the viewpoint of the economist or sociologist will be both stimulating and valuable. In other places, the psychology on which legal principle appears to rest may with profit be examined. The view of the criminologist ought to be considered in connection with many of the problems in criminal law. At the present time, the better law schools are appreciative of the important relation between the social sciences and the law. How to make the latter more responsive to the teachings of the former is a matter that is being given a great deal of thought, and various types of experimentation are being carried on in different schools. We propose to make an

experiment here. Several departments on the campus with whose members this matter has been discussed have received the suggestion with hospitality and apparent enthusiasm.

The foregoing—introduction of the seminar type of course and a reasonable teaching load—will undoubtedly prove a very effective stimulus to research and productivity on the part of our faculty. Law schools generally now regard the improvement of the law as one of their functions. Since up to relatively recent times the training of lawyers for the practice of law was regarded by schools as their sole function, until about a decade ago attempt on the part of law schools to improve the law was confined to the writing of texts, treatises, and critical articles for publication in legal mazagines. Within the last few years, the American Law Institute has undertaken to simplify the law by authoritatively restating it. It is common knowledge that the major part of the work involved in this stupendous project is being done by law teachers.

Another possibility of contribution to the improvement of the law in our own state has been opened up to us through the different committees that have been appointed by the Ohio State Bar Association to consider amendments and alterations in certain areas of our law. These committees have enthusiastically received the suggestion that the faculty of our law school will attempt to make any researches or render any other type of service that will be of assistance to the committees in their efforts to improve the law of our state. Our faculty has undertaken, in conjunction with the law faculties of Western Reserve and the University of Cincinnati, to annotate the Ohio decisions to the American Law Institute's restatement.

In each of the latter types of work, it will be possible to give to our students the opportunity to participate in these researches under the direction of the faculty, thereby developing in them the technique of research as well as thorough knowledge of the particular part of the law of our own state that may be under consideration. It is proposed, with the approval of the proper authorities, to establish the practice of giving credit for independent research projects such as are involved in the two types of work last above mentioned, thus enabling us in larger measure to inspire to independent work those students capable of it, as well as to answer promptly any call that may be made upon us by those who are engaged in the attempt to improve our law.

COLLEGE OF MEDICINE

Dean, J. H. J. UPHAM

ENROLLMENT

During the year there were enrolled in the College of Medicine 328 students, as follows: 100 freshmen, 92 sophomores, 60 juniors and 76 seniors. Of these 312 were men and 16 women. Of these, 80 received the degree of Doctor of Medicine. This figure includes those who were graduated in August, 1928.

The applications for admission to the freshman class were greatly in excess of the vacancies, actually in the proportion of three to one. This allowed an opportunity of selecting the most promising applicants. Of the 100 admitted, 40 had full college degrees, 44 had three years of undergraduate college work, and the remainder two years. The outlook for the ensuing year appears to be about the same, so that a really great burden is thrown on the Entrance Board in the matter of selecting the freshman class. At the present time a plan is under consideration by the Board which may seek to investigate the proficiency of candidates in the real pre-medical subjects, and also seek to learn of their reputation as to integrity, general character, and temperamental and physical fitness for the practice of medicine The Faculty of Medicine must again express its appreciation of the cooperation and active interest of the Entrance Board.

FACULTY CHANGES

Miss Margaret Reilly, B.S., R.N.. was appointed Acting Superintendent of Nurses in the School of Nursing, January 1. Her services have been eminently satisfactory, and she has been recommended for permanent appointment. She has greatly improved the efficiency of the instruction in the School and very greatly altered for the better the general atmosphere and morale.

Dr. Leslie Bigelow, Assistant Professor of Surgery, was granted a year's leave of absence for postgraduate study in special surgery abroad. It was fortunately possible to secure for Dr. Bigelow the appointment of official delegate of the American Medical Association to the meeting of the British Medical Association and also to appoint him as delegate to represent this college at an international health meeting in Zurich, Switzerland.

Dr. Franklin C. Wagenhals, Assistant Professor of Medicine, was granted a year's leave of absence for postgraduate study in nervous diseases abroad.

The instructional duties of these two memebrs of the faculty were distributed among other members of their respective departments, and were satisfactorily taken care of throughout the college year.

Dr. James S. Wilson, Assistant Professor of Public Health, was appointed to the additional duty of Director of the Student Medical Service. Dr. M. F. Osborn was appointed Associate Physician in the same service, on full time. Dr. Harry LeFever, Instructor in Medicine, was transferred to the Student Medical Service as Associate Physician on full time. Dr. Shirley Armstrong and Dr. Margaret Robertson were appointed Associate Physicians in the same service, on part-time duty.

Several minor changes have been made in the various departments, as necessitated by vacancies which arose during the year, in order to maintain the required personnel.

TEACHING

A closer supervision of the teaching during the past year has led to some suggested changes as indicated in the departmental reports, with plans for betterment in the coming year. A greater effort will be made for closer personal contact with the students, in the hope of inspiring greater desire for the acquiring of scientific information and the development of the professional spirit.

A request for letters of constructive criticisms and suggestions from the student point of view was made to the senior class just before the end of the year. A general analysis of the gratifying number of replies is very interesting and illuminating. Some very pertinent criticisms were made, and real interest was shown in offering suggestions.

The amount of clinical material available in Starling-Loving Hospital, St. Francis Hospital, the Children's Hospital, the Isolation Hospital, and the State Street Dispensary has been utilized to the best advantage, but is far short of our needs, considering the large number of students in the classes. Plans are under consideration which, it is hoped, may lead to a substantial increase. One of these would involve a change from the present plan of admitting pay patients to Starling-Loving Hospital and make it an entirely clinical teaching hospital. The present income from pay patients is well over $100,000; it is suggested that a plan similar to those in vogue in Michigan and Iowa might be worked out for this state which would make up the loss of the income from private patients by charging a fixed flat rate for indigent patients to the counties from which such patients are sent. As this will necessitate legislative action, nothing can be done until the next meeting of the legislature; but in the meanwhile a careful survey of the situation is being made and early in the coming year definite plans will be presented to you for your consideration.

RESEARCH

The accompanying departmental reports will indicate the gratifying activity of many of the members of our faculty in research work. The heavy teaching burden and the cramped quarters have limited our possibilities as to quantity production. It is strongly recommended that additions to our teaching force may be made for increasing the activities in this field. It would be especially helpful at this time if our departments of medicine and surgery could be strengthened by the addition in each department of a man with a distinct flair for research. Such individuals, in my opinion, should be sufficiently young to have energy and enthusiasm, with the ambition to establish reputations for the future. Several institutions, the Mayo Foundation particularly, are developing young men of this type, and I feel sure would gladly recommend men of promise. Such individuals should be offered a salary sufficient to relieve them of the necessity of seeking much outside practice, and—of equal importance—should be allotted sufficient funds to allow for carrying on experimental work. Concrete suggestions as to such possibilities will be presented for your consideration in the near future.

MEDICAL SHOP

The reorganization of the medical shop last year to conform to its original plan of repairing the technical apparatus used in teaching has functioned very satisfactorily. The various departments report excellent and prompt service

and their efficiency has been materially strengthened. A detailed report is appended.

ORTHOPEDIC SHOP

The removal of this shop to quarters in the hospital has shown itself as very fortuitous; an examining and dressing room has been provided which has added materially to the convenience and comfort of the patients. Added assistants have increased the output and it is felt that the expert work done is providing a real service to the community. A detailed report of work done is included in the report of the University Hospital.

ADMINISTRATION

The Dean would report that in addition to his administrative duties, he has given two courses of lectures to the senior class. In one of these he endeavored to contribute to the information of the students as much as possible in the line of the *art* as well as the science of medicine.

He took part in the course in the District Public Health Conference given to public health workers under the auspices of the University and the Ohio Public Health Association.

He delivered the Oration in Medicine on "Preventive Medicine, Past, Present and Future" before the Missouri State Medical Association in May, 1929, and delivered the chief address at the dedication of the new hospital at Denison University.

DEPARTMENT OF ANATOMY

The report of the Chairman of this department indicates the heavy load carried by its teaching staff and the necessity for additional help. The plans for the reorganization of the Department of Anatomy already submitted to you will, in my belief, show considerable increase in the already gratifying research work in this field, and will undoubtedly greatly enhance the value of efficiency of the Department.

The transfer of Dr. Baker from the Dental Gross Anatomy Laboratory to that of Medical Gross Anatomy, the securing of a successor to Dr. Baker in Dental Gross Anatomy, a position already provided for, and the addition of two new instructors, one for the medical gross anatomy laboratory and the other for the histology laboratory, will permit of much closer personal supervision and demonstration. It will allow every member of the Department some time to carry on research, and in particular it will have the effect of relieving Professor Landacre of a large amount of classroom teaching. It will, in effect, make him Research Professor, and allow him to outline, direct, and personally carry out a definite program of scientific research. I believe this will be a great move in the way of progress and full of promise of valuable service to science and to the University.

BACTERIOLOGY

The report of this department is not as complete as may be desired because of the absence of the Chairman, Professor Morrey. The instructional work this year has been carried on very successfully, although hampered by the very cramped quarters in the present location. The exact figures were not available to the Acting Chairman, Professor Starin, but he indicates an increased enrollment of students of 25 per cent, distributed among nine colleges. This would

approximate a total of nine hundred and shows the wide range of interest in bacteriology and the very important part it plays in modern scientific and industrial fields.

The granting of the long-desired new building for this department has already greatly stimulated its enthusiasm and morale.

The research activities of this department have yielded many valuable contributions.

MEDICINE

The teaching in this department has been under certain handicaps of absence and illness, but it has been carefully supervised by the Chairman, Dr. Gordon; and, owing to his efficient oversight, has been very successfully carried on throughout the year.

As indicated by the Chairman's report, there are two more or less separate functions of this department, one the production of well-qualified, properly instructed practitioners of medicine, and the other the attempted solution of the many medical problems of the day. Both of these fields are of great value to the state and the public. There *is* a shortage of physicians existing at present; in the past 25 years the population in Ohio has increased 50 per cent, while the number of physicians increased only 15 per cent, the number of medical colleges from eight or nine has decreased to four, and one of these appears about ready to close its doors. The remaining three colleges are unable to supply the annual loss of deaths and removals, so that this department has directed its chief activity toward filling this first need. That this is being done and well done is evidenced by the gratifying success of our graduates in active practice, the excellent showing made by those taking the examinations of the various state medical boards, and their acceptance into the Army and Naval Medical Services. Also, recently, I sent a questionnaire to over sixty hospitals in this and other states asking for a report on the quality of the service rendered by our graduates as interns and their general character and professional training as compared with graduates of other institutions. The replies were most gratifying. One in particular, in New York City, stated that one of our graduates was one of the best interns they had ever had.

These results are all the more surprising when one considers that all the members of this department are on part-time service only, and most are paid merely wholly inadequate honoraria. The Chairman of the Department, Dr. E. J. Gordon, gives unstintedly of his time and energy in didactic teaching, ward class work, as director of the Dispensary, and in administrative work. Dr. E. G. Horton also is a most faithful and self-sacrificing teacher, giving of his time and energy all out of proportion to his allotted salary. I earnestly hope that the budget of this department may be expanded to admit of a more equitable recognition of the value of their services.

This department recognizes the importance of its second function—research; but in the stress of teaching work and the exigencies of actual practice has been forced to give it secondary place. Nearly all of its members have prepared papers on medical topics for the local medical society and addressed medical gatherings in many of the surrounding counties.

It realizes that the reputation of the University in scientific circles would be greatly enhanced if more in the way of studies in experimental medicine could be carried out. As already indicated, and in the opinion of the Chairman of the Department of Medicine, the selection of a *young* man of promise *with*

the allotment of a budget for financing experimental work, would mark a great step in advance. An allowance of $15,000 would inaugurate such a development, with great possibilities for the future.

THE STATE STREET DISPENSARY

This is a very important and practical part of our teaching work. It supplies practical application of the theory and practice of medicine and personal contact of the students with sick individuals. I would draw attention to the amount of work done in cramped and most inadequate quarters, and emphasize the request of the Chairman that a survey of this building be made very soon.

THE CHILDREN'S HOSPITAL

This adjunct to the teaching facilities has been better utilized during the past year than ever before, and gives promise of even greater development in the future. It supplies an excellent addition for the training of interns and for ward class teaching of students. The authorities of this hospital have manifested an extremely broad interest and spirit of cooperation.

DEPARTMENT OF OBSTETRICS

This department has shown a very creditable progress in developing an even better course of instruction than formerly.

The need for better housing of the out-patient department (pre-natal and post-natal service) is very great. Should the hoped-for survey of the State Street Dispensary building be made, this matter may then be taken under further consideration.

DEPARTMENT OF PHYSIOLOGY

The report of this department shows a very healthy state of activity both in teaching and research work. The increase in personnel has permitted of closer personal contact and smaller teaching sections. Especial attention was given to the elementary subjects with the object of better grounding for the subsequent courses and with very promising results.

The work in scientific research has been very gratifying, as has also the increasing demand for addresses before outside bodies.

PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY

The work in this department has been increased and made available to more students than heretofore. Further extension has been sought by other colleges; and, while the chairman is willing, he feels that to do more than at present will require additions to the personnel.

Some remodeling of the laboratory is sought for the coming year so as to centralize all of the work done in the Department in its own rooms. Heretofore, part of the instruction has been given in the physiological laboratories at considerable inconvenience in the matter of transferring equipment. This has resulted in a loss of time and waste motion which it is hoped may be obviated.

Some very valuable research work has been carried on and some is still in process of being worked out. Attendance upon, and contributions to, scientific meeting have been active; and an excellent spirit prevails among the teachers of the Department.

PUBLIC HEALTH AND HYGIENE

The very complete and detailed accompanying report of the Chairman indicates the wide field of activity and excellent service of this department. Limited in numbers as to personnel, it has found those members extremely earnest and devoted in rendering service.

The Chairman, Professor Hayhurst, has developed an international reputation for his contributions on subjects of public health and industrial medicine. He more than creditably represented the University at the International Medical Congress on Industrial Accidents and Occupational Diseases in Budapest in September, 1928, and is achieving recognition as an authority in this country.

Professor Selbert, in addition to her regular assignment, very graciously and helpfully filled out the teaching hours made open in the School of Nursing by the change in Superintendent of Nurses. She also has made many notable contributions to the current health literature.

DEPARTMENT OF PATHOLOGY

The report of Professor Ernest Scott shows a monumental amount of work done in his department and an interest and enthusiasm indicating a splendid spirit of service to the University and the science of medicine. The number of autopsies held is greater than ever before. The study of pathologic tissues in connection with the Department of Surgery was greatly increased by the addition of Dr. E. J. Rodenberg, an Assistant.

The development of laboratory service in St. Francis and Children's hospitals was a very helpful and progressive step. The clinico-pathologic conferences as carried out this year in the University Hospital have proven of very great value, and the projected extension to other hospitals of the city under the auspices of the Department will be an outstanding achievement. The plan of combining the pathological laboratories of other hospitals under the leadership of Professor Scott will be also a signal step in advancing the reputation of the College of Medicine in local scientific circles.

The leader in all these activities, the Chairman, has aroused a spirit of emulation and enthusiasm in his department that promises much for the future.

DEPARTMENT OF SURGERY

This department has had much the same problem as the Department of Medicine. Of necessity the members have had to devote most of their time to teaching and private practice, often to the detriment of the latter. Some research work has been carried on, but this has been limited owing to the demands on the time; what has been done was at the personal expense of the individual. The allotment in the budget for an additional member, preferably a young man already trained in surgery, to carry on surgical research would greatly strengthen this department, provided also an allotment be made for the necessary expense of experimental work. The same amount as suggested for the Department of Medicine would be really necessary to inaugurate such a plan.

Many minor improvements have been made this year to increase the teaching efficiency. More attention has been paid to thorough grounding in essentials and personal contacts, with patients under a closer supervision. An

attempt already made to bring the students in contact with clinical material earlier will be pursued still further.

On the whole, the functioning of this department has shown improvement in the past year and promises still greater progress in the future.

HOSPITAL REPORTS

The reports of St. Francis, Children's and Starling-Loving University Hospitals are appended. The last named is comprehensive and in detail. It covers the operation, maintenance, and scope of work. The greatest need shown is the providing of more nurses and better housing for nurses. The present Superintendent of Nurses, Miss Reilly, has accomplished a very great deal in the past six months. An entirely different atmosphere prevails in the hospital and among the nurses. There will be no difficulty in securing the best type of students if we can surround them with better living conditions.

Undoubtedly one of the greatest needs of the medical college is more clinical material; should the plan under consideration for making the hospital beds available for clinical patients be found to be feasible, the next great and crying need is adequate nursing housing—a new and modern nurses' residence. Attention must also be drawn to the recommendation of the Superintendent in regard to the Isolation Pavilion. This is undoubtedly a fire-trap and most inadequate. It is earnestly hoped that some provision may be made for a change of quarters and really adequate housing for this important department.

STUDENT MEDICAL SERVICE

The report of the Director, Dr. J. S. Wilson, shows a most successful year of this reorganized department. The choice of Dr. Wilson as its head has proven most fortunate. Comparison with departments in other institutions reflects very creditably upon the amount and quality of the service rendered in this University.

The associate physicians have been earnest, enthusiastic, and mutually cooperative. The amount of helpful medical attention given has been very great and unusually free from criticisms. The management has been tactful, and the service has freely cooperated with, and received the cooperation of, the local medical profession. The hospital service has been of great benefit, and the plan inaugurated has worked excellently for the benefit of the student body. Experience has indicated some minor changes that will be presented for your approval in the near future.

On the original plan of paying the salaries of the Staff from the A-1 budget, the Medical Service has proven more than self-supporting in accordance with the recent action of the Board of Trustees, necessitating the payment from the receipts of the special laboratory charge of one dollar per quarter. The fund collected will barely suffice—if it does suffice—to carry on the service as efficiently as has been done this year. The Director has earnestly recommended expansion of the Service, especially in regard to periodic health examination, the inspection of sanitary conditions on the campus, the inspection of campus hazards, and inauguration of methods of prevention of ill health among the student body.

The amount and quality of service rendered this past year, as compared with other institutions, has been absurdly out of proportion to the fee charged. It is felt that an increase of this fee to $2.00 per quarter would allow consider-

able expansion and the developing of a splendid self-supporting service of great value to the student body.

The great endeavor of this department has been to encourage students to consult it for apparently minor ailments for which they would not ordinarily seek medical attention. In this way many cases have been discovered in their incipiency, and probable serious illnesses have been averted. Enough instances of this sort alone have occurred to justify the present service. The proposed expansion is earnestly hoped for and strongly recommended.

Excerpts from Report of Director

GENERAL REMARKS

During the past year—September 1, 1928, to June 30, 1929—much time has been employed in the process of reorganization. The service rendered was with the following general objectives:

a. Dispensary service
b. Reference of patients to specialists
c. Hospitalization
d. "Optional periodical physical examinations," with subsequent corrective measures
e. Emergency service
f. Sanitation
g. Special individual investigations by Medical Staff

It is believed that the activities might be further extended during the coming year to approximate the program of institutions of the importance of Ohio State University, a matter to be presented, subject to the approval of the Dean of the College of Medicine, for consideration of your office at a later date.

Appended hereto is an abstract of the results of an investigation conducted by the Student Medical Service, on fifty-two important questions of the Student Health Program at forty-four colleges and universities of the United States. Specified information on any institution included in the list is available at the pleasure of your office.

PERSONNEL

The Medical and Technical Personnel has been ample for the work attempted, their qualifications excellent; particularly is this the case with Doctor Osborn, who has shown most excellent judgment in his clinical and administrative work. Doctor LeFever has been a valuable member of the staff and has handled his work at the Student Medical Service Dispensary and at the University Hospital in a most creditable manner. The work of Doctors Robertson and Armstrong has been excellent. The Senior Nurse, Miss Young, and the Secretary, Mrs. Eckhardt, have both rendered valuable service, due to their ability and enthusiasm. The results obtained have been due to the high-grade personnel just mentioned, selected by the Dean of the College of Medicine.

SUPPLIES

The supplies have been ample, the quality excellent. They have been delivered promptly. Mr. C. W. McClintock, Storekeeper, Laboratory Supply Store, has been most courteous and prompt in complying with requests of the Student Medical Service, and also furnishing information on technical questions of supply.

BUDGET

The allotment of funds for the work has been adequate.

SHELTER

The quarters accepted have been somewhat inadequate. This condition has been partially corrected by the assignment of two more rooms, to be occupied by Doctor Wilce for physical examinations.

MEDICAL ACTIVITIES SUMMARY

The following data represents a résumé of the work performed for the period covered by this report.

Dispensary Calls	Men, 15,565	Women, 3,967	Total, 19,532
Dispensary Calls, Daily Average	105.5		
New Patients	5,987		
Referred to Specialists	398		
Hospital Bed patients	194		
Women bed patients	42		
Men bed patients	152		
Average bed patients, daily	1.04		
Enrollment entitled to service	11,920		
X-Rays made	152		
B.M.R. tests made	61		
Sputum, tests for T.B.	15		
Cultures for Diphtheria tests	25		
Cultures for Vincents Angina	8		
Urinalyses made	395		
Wasserman tests	24		
Major operations	5		
Hospital patients (out patients)	155		
Hospital cases, total number	349		
Periodic Health Examinations	145		

ACUTE RESPIRATORY DIAGNOSES AND INFECTIONS

The following diagnoses are grouped and their number compared with the number of all conditions treated:

Rhinitis, acute	2,174	Tracheitis, acute	115
Pharyngitis, acute	1,255	Influenza	195
Bronchitis, acute	332	Laryngitis, acute	56
Infections, acute (T.B.)	2		

Total number all conditions and illness treated	10,114
Total number Respiratory cases	4,129
Per cent of Respiratory cases	40.8

PATIENTS IN DIFFERENT COLLEGES

Liberal Arts	1,637
Agriculture	553
Commerce and Administration	1,048
Dentistry	94
Education	931
Engineering	938
Graduate	356
Law	160
Pharmacy	120
Medicine	85
Veterinary Medicine	65
Total	5,987

PATIENTS IN VARIOUS CLASSES

Freshman	1,892
Sophomore	1,628
Junior	1,262
Senior	849
Graduate	356

In closing the Dean would again express his sincere and earnest appreciation of the hearty cooperation he has received during the year from the members of the faculty, from the Administrative Department, the Maintenance Department, and all others connected with the operation of the College of Medicine.

COLLEGE OF PHARMACY

Dean, CLAIR A. DYE

At the outset it is assumed that since you already have in your office all facts relating to registration, teaching load, and other statistical data, such material need not be included in this report. On the other hand, an effort will be made to recount some of the activities and achievements of the College as well as some of the factors influencing the work.

Relative to the foregoing it may be stated that one of the chief factors influencing the work was the request to vacate our quarters in the old Chemistry Building, this request coming before the temporary quarters assigned to Pharmacy in the new Chemistry Building were ready for occupancy. It may be added that this rather unexpected move was found necessary in order that the work of remodeling might be started early so that it might be competed before the opening of the University this fall. We were thus left without any place in which we might move our equipment, and as a result we were compelled to pack and store all equipment and demonstrating material. In consequence the outlook for the year was not very promising and we awaited the opening of the University with many misgivings as to what could be done. Fortunately, through the kind cooperation of the departments of Chemistry, Industrial Chemistry, Soils, and Experimental Engineering, office and laboratory space was provided. Naturally the arranging of this space caused great inconvenience to the departments concerned, a condition which we greatly regret, although at the same time we deeply appreciate the courtesy. As a result of this arrangement we were able, with some crowding and curtailment of our laboratory work for the Autumn and Winter quarters, to go ahead with our regular program. In the Spring Quarter, space became available in the Organic Chemistry Laboratory, and by moving students from the Soils Laboratory the situation was very greatly helped. In this connection it may be added that as soon as the remainder of the equipment is installed in the Chemistry Building the difficulty will be very generally solved.

As was to be expected, the work, under the foregoing conditions, was more or less interfered with; but through it all the students readily adjusted themselves to the conditions and exhibited a wonderful spirit of cooperation, with the result that much more was accomplished than at first seemed possible.

While the foregoing conditions were most unfortunate and at the same time unavoidable, they have, without question, turned out to be blessings in disguise. This we feel is evidenced by the placing, on this year's budget, of a request for a building for Pharmacy and Bacteriology. Now that the request has been granted and the building will soon be a reality, we are looking forward with great expectation and enthusiasm to the time when the College will have adequate, modern, and permanent quarters of its own.

During the forty-four years that have elapsed since the teaching of Pharmacy was introduced into the University, either as a department or college, it has suffered from two fires and been compelled to move five times. In each instance, however, it has come forth with an undaunted spirit and a new vision of the importance and responsibility of Pharmacy to the people

of Ohio. It is therefore my great hope that with our present high requirements, and a new building with modern equipment and facilities, the College will measure up to the highest university ideals by training not only better pharmacists but at the same time better citizens. In this way we, in a measure, repay the University for the confidence that has been placed in the College by providing the new building.

At this time we wish to pay tribute, as well as acknowledge the great debt we owe, to Mr. William C. Wendt, a graduate of the College in the Class of 1889 and Chairman of the House Finance Committee, for his untiring efforts in behalf of the building. In the same way, we wish to give recognition to the many others who very greatly helped in making the building possible.

Another feature to which we wish to call attention is the increasing number of our graduates whom we have been able to place in teaching positions and as graduate assistants in various schools. In addition we have located several of the graduates with various manufacturing firms as laboratory and research assistants, as well as in various commercial positions of trust and responsibility. Such recognition we feel is largely due to the quality of work done, as well as the fact that our graduates already occupying similar positions have made good.

In this connection it is hoped that, with the modern equipment and facilities provided in the new building, we shall be able to increase not only the quantity but also the quality of the work offered. In fact, we hope to be able to meet the growing demands for advanced training in manufacturing and laboratory fields, and in addition to offer advanced students the opportunity for carrying on special research-problem studies. That there is need for such an opportunity is, we feel, evidenced by the numerous inquiries we have had in recent years regarding advanced and special-problem courses in the specialized fields of Pharmacy. In most of these instances, however, we have been unable to offer these students the opportunity for such work for the reason that we have had neither the facilities, equipment, nor working space available for advanced courses.

Among the various activities engaged in by the members of the teaching staff the following may be mentioned: Dr. Dye and Mr. Brown attended the meeting of the American Association of Colleges of Pharmacy and the A. Ph. A., held in Portland, Maine, in August 1928. In addition I have tried to keep in touch with the problems of the pharmacists of the state and to this end have attended the meetings of the State Pharmaceutical Association in Cedar Point and Columbus. In other instances, I have attended various district meetings in the state as well as of the Columbus Retail Drug Association. Professors Brown, Williams, and Keyser have spent a part of their summer vacation in doing relief work in various stores in Columbus. In this way they have not only kept in touch with present-day conditions but also obtained an experience which is of great value to them in their teaching. As a further activity, I was appointed by the Executive Committee of the American Association of Colleges of Pharmacy to inspect and report on the Schools of Pharmacy in Meharry Medical College, Nashville, Tennessee, and Alabama Polytechnic Institute, Auburn, Alabama.

Notwithstanding our cramped laboratory quarters, we have, as in the past, provided the State Board of Pharmacy with the space and equipment

necessary for carrying on the practical part of their examination. This service was provided four times this year and, while it interferes somewhat with our work, it is highly appreciated by the members of the Board of Pharmacy since it enables them to give the practical examination under very favorable conditions. We feel that the foregoing is a service which is well worth while, since it serves to keep the College in close contact with the pharmacists of the state.

Thus far no direct reference has been made to the specific needs of the College for the reason that under present working conditions it would be impossible to either install or use such equipment. In this connection it is assumed that in the new building modern equipment, meeting our specific needs, will be provided. Acting on this assumption, we have already supplied the University Architect with a list of such equipment and special features needed, and they need not therefore again be discussed.

While we have been working at a considerable disadvantage this year, due to new surroundings, generally cramped quarters, and lack of suitable demonstrating material, we have nevertheless accomplished much more than was thought possible at the beginning of the year. That this has been possible is, I feel, largely due to the fine spirit of cooperation evidenced by the members of the instructional staff of the College. In all instances they have responded enthusiastically to every demand upon their time and energy and I wish in this way to give due recognition and credit for their loyal and generous support.

In conclusion permit me to express to you and the various administrative officers and other officials my very great appreciation for the many helpful suggestions and the hearty cooperation received during the year.

COLLEGE OF VETERINARY MEDICINE

Dean, DAVID S. WHITE

GROWING IMPORTANCE OF VETERINARY MEDICINE

The growing importance of veterinary medicine has become recognized by thinking people. For a time it was believed that since the motor had arrived, displacing tens of thousands of horses, veterinary medicine would no longer be an important service to mankind. Experience has shown that quite the opposite is true. The need for adequate veterinary service is today much greater than it ever was. The changes in our civilization, especially since the last war, have created a greater demand for the veterinarian than ever before. However, the future will require a higher type of veterinary service in order that our live-stock industry be kept from ruin. This industry is enormous. On the farms of our country are over 58,000,000 cattle, 42,000,000 sheep, 53,000,000 swine, 20,000,000 horses and mules, and 500,000,000 domestic birds. They represent an investment of approximately seven billions of dollars. These animals are on the average of a much better type, and therefore more valuable individually than formerly. The modern farmer can no longer keep mediocre live stock. With higher labor cost, higher taxes, and higher living rate, only the most efficient can be maintained at a profit. While individual farm animals are now of greater value than they used to be, their production is more hazardous. As our country grows older, the soil and the plants become even more infected with parasitic agencies which cause disease in animals. Modern communication and transportation facilities are contributing greatly toward the spread of diseases, especially the communicable infections. Each year the farmer finds his plants and animals increasingly menaced until much of his time and energy are now expended in preventing disease among his flocks and crops. To cope with the situation there must be produced a constant supply of educated, trained, and experienced men. On the plant side are the entomologist and the plant pathologist; on the animal, the veterinarian.

Already our live-stock losses aggregate nearly $300,000,000 yearly. Most of the diseases entailing this loss can be prevented, provided more adequately prepared veterinarians are available. The only source of supply of veterinary service is the school. At ten of our land grant colleges are schools of veterinary medicine, none of them adequately staffed, housed, or equipped to prepare young men to assume the task ahead. A veterinarian, like the physician, is a necessity growing in pace with the progress of modern civilization. He has developed, like any other growing necessity, as the result of a demand from without. He is becoming more and more of a conservator of the health of animals and less and less of a tinkerer with the individual sick. It, therefore, becomes the plain duty of the University, which includes the veterinary medical school, to take more seriously veterinary education and seek to develop it rather than merely tolerate it. It is hoped that this report will mark the beginning of a new epoch in veterinary medical education at Ohio State University. If we cannot go ahead, we must go backward. To retain in a university supported by the people a department that is drifting down stream is nothing short of a perversion of public funds!

TEACHING STAFF

Only one change in the teaching staff took place during the past academic year. Dr. James W. Benner of Cornell University accepted an assistantship in pathology, for one year only. He was also matriculated in the Graduate School, working toward an advanced degree. He is a young man of exceptional ability, a good teacher, and an unusual investigator. His original research in swine diseases has given him nation-wide approbation. Next year he returns to Cornell to take charge of their Veterinary Experiment Station.

I am of the opinion a few changes in the present staff should be made for the good of the service. To progress we must command men of breadth of vision, efficiency in pedagogy and research, and men who are cooperative, working together like a well-drilled football team in play. Some of the staff fulfil the requirements in these regards, others do not. I believe the time has come to think of the *student* side of the question, and less of the well-recognized, weak sisters among us who have, because of a more or less long service, acquired "squatter rights."

A subsequent report will present my views in detail concerning this very vital matter.

STUDENT INCREASE

There has been a suitable increase in the student population of American veterinary schools during the past year. The general increase is 20 per cent over the preceding year. In the eleven schools last November there were 836 students, or an average of 76 to each school. In the senior class of 1929 there are 139 students. (See attached printed tabulation.) Should all graduate, an average of less than three for each state would be turned out to fill the annual gap in the profession which is somewhere between four and five hundred. The dearth of veterinarians is being felt; my office receives three requests for our graduates to one available. During the past month we were compelled to recommend for attractive positions two graduates of other schools. Our matriculation was 112 students, the third highest in the country. We are, however, not equipped to handle efficiently over one hundred students. We should strive more for quality and less for numbers. One good veterinarian is of greater service to humanity than any number of poor ones.

ACTIVITIES OF SUBDEPARTMENTS

The subdepartment of pathology, besides carrying on the routine teaching, has engaged in research on goitre in dogs, sterility in cattle, dog distemper, and hog cholera. It conducted 1,008 autopsies and made several hundred laboratory examinations of tissues from the standpoint of diagnosis. It also teaches histology.

The subdepartment of Clinics reports a very successful year. During the past nine months over 8,000 animals were treated in the Veterinary Hospital, an increase of 2,000 over the year preceding. All kinds of animals were represented, and a great variety of disease conditions was afforded the students registered in the clinical courses.

The ambulatory clinic, for which a motor car is maintained, has given the student opportunity to see the patient under "home conditions." Over 3,000 animals were visited by student and instructor during the past year. This branch of the clinic has immediate charge of the health of animals

belonging to the University. During the past year a test was made to determine whether or not tuberculosis longer existed in the University cattle herd. Of 225 tested, not one gave a reaction indicating the presence of the disease. When the herd was further tested to determine the extent of abortion disease present, 16 per cent reacted positively. The reacting animals were removed to another farm, to be disposed of gradually. The original herd is now "negative." The results have been eminently satisfactory. Calf losses, sterility, udder diseases, and diseases of the new-born have been greatly decreased. Thus a relatively unprofitable herd was converted into a profitable one. More than this has been the contribution toward the reduction of undulant fever in man, which is becoming common, and is now known to be due to drinking milk from cows affected with the abortion disease. Accompanying are detailed reports made by Drs. Brumley, Goss, and Shoemaker, respectively. I send them with this in order that you may have first-hand information in regard to matters only briefly touched upon in this report.

BETTERMENTS

Briefly to summarize the betterments necessary to bring the College back to its former envious position, the following seem imperative:

a. The *Teaching Staff* should be sifted of the few who are not good teachers, non-cooperative, and whose vision is too restricted.

b. *Teachers* of proven worth should be added to the staff—men more of the type of the late Professor Sisson whose work and writings gave the University everlasting fame in the field of comparative anatomy. Ohio is rich enough to afford such men; in fact she cannot afford to continue without them.

c. The present *Veterinary Buildings* are now so closely surrounded by other buildings that future expansion is impossible. A new set of up-to-date buildings designed to meet future needs in the way of teaching and research should be erected, preferably across the river. About them should be acreage for paddocks, open enclosures for experimental animals and exercise runs. The State of Saxony, Germany, with an animal wealth valued at less than one-fifth that of Ohio, has built since the war at the University of Leipsic a new veterinary school at a cost of 8,000,000 gold marks ($2,000,000). Germany has four other state-supported schools, the poorest equipped of which far exceeds the best in the United States.

d. I believe the time will soon be ripe for raising the *Entrance Requirements* to the College. Too many of the students, although high-school graduates, have not the preliminary education and maturity to get what they should out of a modern veterinary medical curriculum. In Europe the entrance to the veterinary school and the medical are the same, graduation from gymnasium, and the first year of the curriculum is almost identical. Over yonder veterinary medicine is considered *medical;* in our country *agricultural.* While it is true farm animals, like farm people, are out in the country and that verterinary salvage of the sick and injured and the prevention of disease in the healthy are of the most vital importance to the farmer (which is just as true of "human" medicine as applied to people) there is nothing in common between agricultural education and veterinary medical education, except, of course, in some of the basic courses such as chemistry, botany, physics, and general biology. Grouping the two together has worked to the disadvantage of each.

e. The entire *Curriculum* should be revamped to meet present-day needs. Under the guidance of an expert in curriculum building, like our Dr. Charters, much can be done toward this end. A special committee of the staff will attack the problem this fall.

It is hoped that the University authorities will recognize the responsibility in the matter of building on our campus an institution of veterinary learning which will serve not only the needs of the live-stock industry of the state but, through the control and eradication of diseases transmissible from animals to man and the supervision of the inspection of foods derived from animals, also contribute its full share toward making man healthier and thus more efficient.

PHYSICAL EDUCATION

Chairman, L. W. ST. JOHN

I have the honor to transmit to you and the Board of Trustees the Annual Report of the Department of Physical Education for the year ending June 30, 1929.

The reorganized Student Medical Service under the direction of the Dean of the College of Medicine, including on its staff the examining physicians of the Women's Division, Department of Physical Education, and associating Dr. W. E. Duffee, of the Men's Division, has proven a source of satisfaction to the Department of Physical Education. Mutual confidence and cooperation has been distinctly in evidence; and, under the efficient direction of Dr. Wilson, the Student Medical Service is destined to prove of great value to the University.

During the absence of Professor Lydia Clark Benedict, Director of the Women's Division, Miss Gladys E. Palmer has rendered most efficient service as Acting Director of the Women's Division. Definite advances have been made along many lines, as will be seen by a reading of the report for the Women's Division. Especially should attention be called to advances along the line of Health Education under the supervision of Dr. Shirley Armstrong. Special work has been done by Dr. Armstrong and Miss Gilman in Health Education and Corrective Gymnastics. Due to the initiative of Miss Palmer, Miss Mary K. Browne was secured to give a series of lectures to the university women on tennis. This proved a great stimulus to sports activities for the Women's Division.

Professional Course work for women, under the capable direction of Miss Katherine Hersey, has continued to make progress One hundred and forty-three women have been enrolled in the Major Course in Physical Education during the past year. For the first time, the new field for women was made use of, and it adds considerable to the sports facilities for the Women's Division.

A noteworthy project of the year was a Play Day, involving one hundred women from Ohio Wesleyan University and a similar number from the Ohio State University. This athletic Play Day was voted a real success and it is hoped may be followed by other similar occasions.

The Legislature has made possible a new Physical Education Building for men. In our annual reports for at least a dozen years, we have stated this to be the outstanding need of the Physical Education Depatrment. We look forward with great pleasure to the planning of this new Physical Education Building and are assured by the Athletic Board that a natatorium will be provided coincident with this Physical Education Building. We must still mark time, however, until the Physical Education Building and a natatorium become actualities. In the meantime, the Physical Education program for men leaves many things to be desired.

Mr. Harlan G. Metcalf has given us a splendid program in Corrective Gymnastics for the Men's Division. This is undoubtedly the most distinct advance made in the Physical Education required program for men.

Dr. J. W. Wilce, who has been for seventeen years in charge of the intercollegiate football activities, has resigned as football coach. We are happy to say that he continued a teaching connection with the Department of Physical Education. Mr. S. S. Willaman has been made football coach for the coming year. Notable additions to the football coaching staff are George W. Hauser, as line coach, and Don C. Miller, as backfield coach. Mr. Harold S. Wood has been advanced to the position of Intramural Director.

Under the capable direction of Dr. F. R. Castleman, track coach, and L. N. Snyder, assistant track coach, our track team has enjoyed the best year in the history of the institution. Simpson established a new world's record for the 100-yard dash; Rasmus, for the discus throw. These and noteworthy performances by Dick Rockaway, also establishing records, were the features of the track season.

Financially, the past year was the best in the University history. As usual, football finances the entire intercollegiate sport program The University has purchased approximately 300 acres of land for the purpose of developing a University Golf Course. The actual completion of this project will be deferred several years, until such time as finances permit. Practically all other Western Conference institutions have golf courses of their own. The Ohio State University will soon be able to offer to its students and faculty similar facilities. This is only one item in a somewhat comprehensive ten-year expansion program announced during the year by the Athletic Board. It is expected to provide for the University from athletic receipts, first, a natatorium; second, a field house; third, a university golf course; fourth, a field house for women; and later, aquatic facilities on the Olentangy River.

Ninety-five men have been enrolled in the professional teacher-training work in Physical Education for men. Attention is called to the report of this Division by Darwin A. Hindman.

Attention is especially called to the report on corrective activities for men by Harlan G. Metcalf, and to the intramural athletic program reported by Intramural Director, Harold S. Wood.

Total number given emergency treatment during the year		1,543
Total number of students referred to physicians or clinics for special treatment:		
Eyes	935	
Teeth	2,340	
Nose and Throat	285	
Vaccination	1,030	
		4,590
Students under medical supervision for corrective and remedial exercise:		
Autumn	87	
Winter	125	
Spring	65	
		277

CORRECTIVE DEPARTMENT

HARLAN G. METCALF

GENERAL AIM

The aim of the corrective division of the Physical Education Department of the Ohio State University is to develop and carry on a program of activities specifically adapted to the needs of physically handicapped individuals unable to carry on with benefit the regular required courses in Physical Education.

MORE SPECIFIC OBJECTIVES

1. To exhibit the closest possible cooperation between the University physician, the Student Medical Service, military authorities, and teachers of other Physical Education activities.
2. To determine first in every case the cause of the particular handicap of each individual through contacts with the University physician, Student Medical Service, and personal interviews with the student.
3. To correct certain remediable defects of a functional nature through the use of specific exercises and games.
4. To give protection and a specifically adapted program for students temporarily disabled (sprain, convalescence, etc.), for whom the regular courses in Physical Education would be detrimental.
5. To offer protection for individuals whose condition requires medical or surgical treatment for ultimate correction.
6. To hasten the period of recovery in certain specific post-operative cases.
7. To develop in each individual the kinaesthetic sense and habits of correct body mechanics which will contribute to his greatest efficiency.
8. To develop in the students concerned an intelligent understanding of their present defects, the causes of these defects, and the reasons for the treatment prescribed.
9. To interest the students sufficiently, so that they will carry on the prescribed activities beyond the classroom.
10. To substitute, wherever possible, game and sport activities in place of more artificial calisthenic exercises (provided they are by kinesiological analysis equally valuable in strengthening specific muscle groups), thereby capitalizing interest and carry-over value.
11. To bring students, as soon as possible, to that standard of physical efficiency that they may return to the regular required courses of Physical Education.
12. To find and teach to each handicapped individual one or more sports safely applicable to his specific condition. This should be a sport in which he can participate with great benefit throughout his entire life and which will serve as a means of counteracting the inferiority complex prevalent in those physically defective.
13. To make all contacts between teacher and student as direct, personal, and individual as time and circumstance permit.
14. To help each handicapped individual adapt himself better to all life conditions in and out of school.

The following table gives the number of students regularly enrolled in Corrective Physical Education sections by quarters and the types and numbers of defects represented by each

The rest of the report will follow very closely the organization of the "Statement of Aims and Objectives of the Corrective Physical Education Department" found in the first part of this report. There should be frequent reference to this statement of aims as the report is read, and the numbers of the paragraphs in the report will discuss topics similarly numbered in the Statement of Objectives.

CORRECTIVE PHYSICAL EDUCATION DEPARTMENT 1928-29

Defects	Autumn Quarter	Winter Quarter	Spring Quarter	Total
Postural Deviations	56	46	34	136
Foot Deviations	32	32	25	89
Hernia	15	17	15	47
Post-Operative	2	4	2	8
Infantile Paralysis	7	8	7	22
Heart	12	11	8	31
Injuries	3	7	3	13
Goiter	5	5	4	14
Malnutrition	17	16	12	45
Visceroptosis	2	2	0	4
Neurasthenia	1	1	1	3
Convalescent	1	1	2	4
Kidney	2	1	1	4
Number of Student Enrolled...	130	125	96	351

Very close cooperation has existed between the Department of Corrective Physical Education and the following:

1. The University Physician—
   a) Gives initial health examinations to all students at beginning of each quarter.
   b) Assigns men with the more serious defects, such as heart, hernia, tuberculosis, spine, goiter, etc.
   c) Makes frequent re-examinations of men with above defects, and is ready to give advice and counsel to the Director of Corrective Department concerning the work.

2. The Student Medical Service—
   a) Refers to the Corrective Department many cases which it feels that corrective exercise would benefit, such as foot deviations, both longitudinal and anterior arches, inguinal hernia, post-operative cases, and convalescent cases. The past year the Student Medical Service has referred approximately fifteen cases of foot deviations and hernia alone to our Department for instruction.
   b) Gives medical attention and advice to students constantly referred to it by the Corrective Department.

3. Military Authorities—
   a) Cooperate through Major Van Kirk, of the Military Science Department, who is present at the time of health examinations before each quarter, to reject men not physically fit for military science. Major Van Kirk, together with the Director of Corrective Physical Education and the University Physician, also present, can make decisions as to advisability of certain students being placed in a corrective physical education section in lieu of military science, so that certain orthopedic defects can be corrected or improved and at least protected.
   b) Place men in corrective sections for strengthening their feet and arches when the test of military maneuvers has proved its need.

4. Teachers of Other Physical Education Sections—
   a) Send men with convalescent injuries and strains into the corrective sections temporarily until students are able to return to their original sections.
   b) Cooperate also about receiving into their sections students who have become sufficiently strong to handle regular work again.
5. Athletic Coaches—
   a) Referred in the past year to the Corrective Physical Education Department for instruction and care ten of the Freshman and Varcity track team whose arches had fallen and whose feet were weak and painful. This service has also been given to some of the men of the Varsity wrestling team and others.

      Next year, with Coach Castleman's approval, the Department plans an intensive program of instruction with track candidates to strengthen their feet and prevent them from going bad in mid-season.

PROFESSIONAL COURSES

DARWIN A. HINDMAN

I take pleasure in presenting the following report on the four-year professional curriculum in physical education for men for the year 1928-29.

NUMBER OF STUDENTS

The number of students again shows a substantial increase, the total for the year being 95, distributed among the classes as follows:

Freshmen	52
Sophomores	20
Juniors	14
Seniors	9
Total	95

GRADUATES

The total number of men graduated from the four-year curriculum before the Spring Quarter of the year 1928-29 is 19.

ADDITION OF MR. METCALF

The professional training has been greatly strengthened by the addition this year of Mr. Harlan G. Metcalf to the teaching staff. Mr. Metcalf has been teaching classes in Kinesiology and in Corrective Physical Education, and, in addition, has very generously and very ably assisted in giving personal attention to the students and their problems, and in administering and developing the Department's whole program of teacher training

EXTENSIVE CURRICULUM STUDY PLANNED

Plans are being made under the direction of Director Charters, of the Bureau of Educational Research, for a very thorough study of the problem of professional training in Physical Education. This study will be begun next

fall, and the results will be ready for application when the new Physical Education Building is available. It is the very good fortune of the Department that Mr. Charters is to direct this study. The result should be a curriculum surpassing all others.

NEW COURSES PROPOSED

It has been the policy during the year not to experiment with the curriculum, but to wait until the new building and the results of the curriculum study should be ready for use. However, two needs of our graduates make certain additional training appear so necessary that new courses have been prepared to handle it. To meet the need for better training in teaching health, two new courses have been added: a three-hour course in Personal Hygiene (Physical Education 410), to replace the one-hour course required of all University students; and a three-hour course in The Teaching of Health (Physical Education 643).

The other need referred to in the preceding paragraph is that for training in Camp Leadership. In cooperation with the Women's Division, a course for such training was planned in some detail and submitted to the Council on Instruction. It happened, however, that the Department of Sociology proposed about the same time a course in Camp Leadership for their students; and the Council on Instruction refused both proposals on account of apparent overlapping. Following the directions of the Council, the two departments have prepared a joint course, which will be submitted in the autumn.

DEPARTMENT CAMP NEEDED

While the course just mentioned will do something to supply the immediate need, the Physical Education Department must plan to do very much more in the way of training for camp directorship. Authoritative and exact information on the need for such training will be supplied by the first part of the proposed curriculum study already mentioned. But enough is already known to show that camps are becoming more and more important in education, and that it is becoming more and more necessary and desirable for physical education teachers to engage in the educational work of these camps. Consequently, it is here proposed that our Department should plan to take a position of leadership in the training of camp directors and, as a necessary step in this direction, should acquire a camp where much training may be given. The department camp would not only supply the opportunity for this training, but would also provide a laboratory for all kinds of outdoor sports and for practice teaching in sports. The camp would then have three separate divisions (not necessarily all three at one time); (1) tuition-paying boys who furnish the practice school; (2) students taking courses in camp leadership and doing practice teaching; (3) students taking courses in outdoor activities.

INTRAMURAL ATHLETICS

Director, HAROLD S. WOOD

The interest in intramural athletics at the Ohio State University during the past year has been the greatest of any year in its history, as evidenced by the increase in participation in each of the twenty-four sports promoted by the Department. This interest was further evidenced by the enthusiasm which the fraternity and unit managers showed in their contact with the

Intramural Office. That faculty men are becoming more and more interested in the program is shown by the increase in the number of participants from approximately 150 the year before last to over 300 the past year; bowling alone increased from 13 to 24 teams, and the indication is that more than 30 teams will enter next year.

One new sport, archery, was added to the intramural sports program and was enjoyed by 128 participants. This sport will continue to grow in popularity and is worthy of inclusion in the intramural sports program.

A decided improvement was made in record-keeping during this past year, so that the number of contests participated in by every student in intramural athletics may be readily seen. The record of each fraternity and independent organization competing in intramural athletics was kept on a separate card, especially made for the purpose From these cards, one may readily determine the percentage of intramural competition in the fraternity, what men have competed in the most sports, etc. From a comparison of these organization cards, one may determine the relative interest shown in intramural athletics by the various groups participating. Some correlations will be made between intramural and academic achievement for both organizations and individuals. The results of these correlations will not be available until fall.

There is an urgent need for more tennis courts, indoor gymnasium space, handball and squash courts, a golf course, and a natatorium. It is encouraging to the Department that many of these needs will be met in the near future, so that the Intramural Department can best serve the wholesome recreative interests of the student.

The unorganized recreational phase of intramural athletics remains almost non-existent, due to the lack of the above-mentioned facilities. Activities such as handball, squash, tennis, swimming, golf, etc., which have the greatest carry-over value in post-college days, receive little or no encouragement. Until the completion of the new physical education building, natatorium, and golf course, this extremely important part of the physical education and intramural work must of necessity be overlooked.

The following report of the intramural athletic participation for the past year shows very definitely that a large proportion of intramural competition is by fraternity men. The members of the various military units are very active in intramural athletics in the Winter Quarter, due to the splendid cooperation of the instructors in the Military Department, who encourage some athletic participation during the months in which there is no military drill. The independent teams compose the third largest competing group, followed by the colleges, in which there is but little intramural interest evidenced.

Eighty-one per cent of the members of the 49 social fraternities were active participants in the intramural athletic program. Seventy-three per cent of the members of the 23 professional fraternities were active participants. Seventy-seven per cent of the members of the 72 fraternities competing in intramural athletics were active participants in the athletic program.

This record of fraternity participation in intramural athletics is for intramural athletics alone and does not include Intercollegiate or Physical Education participation. Indications from an athletic participation survey, as yet incomplete, are that approximately 90 per cent of all the fraternity men on the Ohio State University campus are engaged in some athletic activity during the school year.

Fraternity Participation in Intramural Athletics (Social Fraternities)*

Name	Members of Chapter	Members in Intramurals	Per cent Competing	Sports Played	Total Men in Total Sports
1. Phi Kappa Sigma	54	50	93	18	284
2. Sigma Pi	64	55	90	18	244
3. Theta Kappa Phi	63	57	90	18	224
4. Alpha Phi Delta	45	40	89	17	221
5. Alpha Chi Rho	50	45	90	16	205
6. Delta Sigma Phi	59	51	86	15	205
7. Theta Chi	58	52	90	14	189
8. Pi Kappa Alpha	72	59	82	14	185
9. Phi Delta Theta	68	52	76	13	152
10. Kappa Delta Rho	48	41	86	13	147
11. Sigma Alpha Mu	46	39	85	13	134
12. Delta Alpha Pi	46	36	78	13	111
13. Lambda Chi Alpha	51	47	92	12	216
14. Phi Kappa	69	56	81	12	180
15. Kappa Sigma	70	59	84	12	163
16. Phi Kappa Tau	61	49	80	12	152
17. Alpha Sigma Phi	55	45	82	12	148
18. Phi Mu Delta	47	43	92	12	141
19. Alpha Epsilon Pi	32	31	97	12	125
20. Phi Sigma Kappa	45	37	82	12	96
21. Phi Kappa Psi	70	43	61	12	83
22. Sigma Delta Rho	51	43	84	11	145
23. Sigma Lambda Pi	35	35	100	11	144
24. Alpha Tau Omega	67	42	63	11	89
25. Chi Phi	66	49	74	10	140
26. Phi Beta Delta	37	31	84	10	113
27. Sigma Alpha Epsilon	73	42	58	10	91
28. Phi Gamma Delta	64	50	78	9	148
29. Tau Delta Phi	46	42	91	9	147
30. Tau Kappa Epsilon	60	52	87	9	134
31. Delta Tau Delta	60	50	83	9	115
32. Sigma Chi	68	56	82	9	111
33. Pi Kappa Phi	44	31	70	9	106
34. Sigma Phi Sigma	44	36	82	9	106
35. Delta Chi	65	42	65	9	91
36. Beta Kappa	53	35	66	9	66
37. Phi Sigma Delta	34	30	88	8	85
38. Tau Epsilon Phi	33	28	85	7	111
39. Delta Rho	39	35	90	7	107
40. Sigma Phi Epsilon	50	38	76	7	90
41. Delta Upsilon	47	31	66	7	73
42. Zeta Beta Tau	29	20	70	7	36
43. Sigma Nu	56	47	84	6	95
44. Beta Theta Pi	66	36	55	6	63
45 Theta Nu Epsilon	32	29	91	5	84
46. Gamma Delta Theta	23	22	96	5	65
47. Alpha Phi Alpha	39	20	51	3	27
48. Gamma Alpha	13	12	93	3	16
49. Kappa Alpha Psi	16	15	98	1	15

* It will be noted that all of the forty-nine social fraternities of the University are active in Intramural athletics.

Summary of Intramural Athletics

Sport	Fraternities		Independent		College		Military		Faculty		Grand Total	
	Teams	Ind.	Teams	Ind.	Teams	Ind.	Teams	Ind.	Teams	Ind.	Teams	Individuals
Indoor Baseball	83	951	4	40	5	64	0	...	0	...	92	1,055
Speedball	73	1,004	2	20	1	23	..	...	0	...	76	1,047
Cross Country	0	....	..	75	.	0	..	0	..	0	...	75
Horseshoes (Spring)	0	....	64	128	0	...	0	...	0	...	64	128
Bowling	139	1,005	8	53	7	50	0	...	24	172	178	1,280
Basketball	160	1,174	39	328	7	68	53	424	0	...	259	1,994
Rifle Shooting	47	212	4	52	0	...	27	131	0	...	78	395
Pistol Shooting	42	225	3	19	0	...	22	115	0	...	67	359
Foul Shooting	51	389	4	21	0	...	0	...	0	...	55	410
Boxing	...	....	..	73	.	...	..	...	..	...	...	73
Wrestling	...	....	..	95	.	...	..	...	..	...	...	95
Fencing	...	....	..	87	.	...	..	...	..	...	...	87
Festival (Indoor Track)	16	97	..	6	.	...	..	...	..	...	16	103
Playground Ball	64	1,005	10	129	8	112	0	...	8	106	89	1,352
Horseshoe Pitching (Spring)	119	557	5	30	4	25	0	...	0	...	128	612
Baseball	42	548	4	44	5	41	0	...	0	...	51	633
Tennis	...	....	..	236	.	...	..	...	..	...	...	236
Golf	...	....	..	131	.	...	..	...	..	...	...	131
Relay Carnival (Outdoor Track)	23	130	2	7	.	...	..	...	..	...	25	137
Swimming	14	122	3	3	.	...	..	...	..	...	17	125
Polo	...	....	..	75	.	...	..	...	..	...	...	75
Archery	...	....	..	128	.	...	..	...	..	...	...	128
Sigma Delta Psi	...	....	..	9	.	...	..	...	..	...	...	9
											1,195	10,539

Note: The above record is the exact account of the number of teams and individuals competing in each of the athletic sports promoted by the Intramural Department. This record does not include teams or individuals who entered the various sports but did not actually compete; nor does it include managers or other individuals taking part in the fraternity sing or other special events of a non-athletic nature.

Fraternity Participation in Intramural Athletics (Professional Fraternities)*

Name	Members of Chapter	Members in Intramurals	Per cent Competing	Sports Played	Total Men in Total Sports
1. Tau Gamma Phi	45	38	83	12	128
2. Delta Theta Sigma	48	41	85	11	125
3. Triangle	44	38	86	10	142
4. Theta Xi	36	34	94	10	118
5. Phi Delta Chi	54	45	83	10	116
6. Omega Tau Sigma	50	44	88	10	115
7. Alpha Zeta	54	46	88	9	140
8. Alpha Mu Pi Omega	62	31	50	9	111
9. Alpha Chi Sigma	30	24	80	7	63
10. Rho Pi Phi	28	26	93	6	66
11. Alpha Gamma Rho	44	34	77	6	57
12. Theta Tau	43	31	72	5	56
13. Phi Chi	67	22	31	5	52
14. Alpha Rho Chi	30	25	83	5	47
15. Psi Omega	58	26	45	4	46
16. Phi Delta Epsilon	33	26	80	4	44
17. Alpha Omega	21	19	90	4	41
18. Epsilon Psi Epsilon	16	16	100	4	40
19. Kappa Psi	16	16	100	4	29
20. Xi Psi Phi	28	20	71	4	25
21. Omega Upsilon Phi	28	15	54	2	23
22. Alpha Kappa Kappa	20	14	70	2	18
23. Gamma Eta Gamma	29	10	35	1	10

* Only two of the twenty-five professional fraternities of the University took no part in intramural athletics.

Summary of Fraternity Competition in Intramural Athletics

Social Fraternities ..... 100 per cent Participation
Professional Fraternities ..... 92 per cent Participation
Total Fraternities ..... 96 per cent Participation

Number of Fraternities	in	Number of Sports	Number of Fraternities	in	Number of Sports
3		18	11		9
1		17	1		8
1		16	6		7
1		15	4		6
2		14	5		5
4		13	5		4
10		12	2		3
4		11	3		2
7		10	2		1

The reasons for this high percentage of participation in intramural athletics by fraternity men are as follows:

1. The fraternity is a close unit, with its members concentrated in one meeting place, to which information concerning athletics may be mailed or phoned daily.
2. The fraternity loyalty and desire to excel is an impelling motive to athletic participation.

3. The fraternities as a rule select capable and enthusiastic intramural managers to represent their fraternity in its contacts with the Intramural Department.
4. Some fraternities have the additional advantage of having Intramural Department managers from their fraternity.
5. The desire to win trophies which may be displayed in the chapter house is a strong incentive.
6. The fraternities stimulate their members to take part in some extra-curricular activities, and many express themselves in intramural competition.

Complete records of the number of contests played in each sport by each individual in Intramural Athletics is readily available at the Intramural Office.

COLLEGE PARTICIPATION IN INTRAMURAL SPORTS

Thirteen colleges, or departments in colleges, competed in intramural athletics during the past year. The average participation was in three sports, and each college used from 30 to 70 men. College participation in intramural athletics is promoted more for sentimental reasons (it being the original class of intramural competition) than because of the enthusiasm for college intramural participation. More effort has been put into promoting intramural interests in the various colleges on the campus than is expended in promoting any other intramural group, and with the least results.

An intramural rule provides that a man may compete on only one team in the same sport. Since this prevents the colleges from using a large number of fraternity men who are competing on their fraternity teams, it necessitates the use of non-fraternity men or fraternity men who are not good enough to make their fraternity teams. Many of the colleges on the campus are so large and impersonal that the students have no particular feeling of loyalty to their respective colleges, and there is no other bond than their college affiliation, which is admittedly not strong. Except in the case of very small colleges, the intramural team representing the college is merely a small group of students who happen to be in a particular class together, and this team is in no way representative of the college under the name of which is competes.

Because of the looseness of the unit, intramural participation by colleges is unsuccessful in all colleges or universities where fraternity, independent, military, and other units of competition are present.

INDEPENDENT COMPETITION IN INTRAMURAL ATHLETICS

Forty-seven independent organizations participated in intramural athletics the past year, and, of this number, there were many which were active in each league sport offered.

Each year the Intramural Department makes a decided effort to encourage more competition among non-fraternity men, but because of the necessity of relying upon a single individual to convey all intramural information to his teammates, who are perhaps not centralized in any one section of the city, the independent team participation is not as active as fraternity participation. It takes considerable time to organize non-fraternity men into independent teams for intramural competition, and, except in a few cases, this team does

not carry over from year to year. Because of this condition, there are but few independent teams in intramural competition during the Fall Quarter.

Many of the independent teams have done very well in competition and were champions and runners-up in several of the sports.

MILITARY PARTICIPATION IN INTRAMURAL ATHLETICS

During the Winter Quarter, the Intramural Department promotes intramural competition among the various military sections in basketball, rifle shooting, and pistol shooting. The officers of the Military Department, through classroom announcements, organization of teams, and interest in the military schedules, greatly facilitate the promotion of Military intramural competition. It is the feeling of the Military Department that some athletic activity should be engaged in by all of the military students during the winter months in which there is no military drill. They also are of the opinion that intramural interest in rifle and pistol shooting is a benefit to the Military, as well as the Intramural Department.

FACULTY PARTICIPATION IN INTRAMURAL ATHLETICS

Faculty team competition was promoted in bowling and playground ball, with bowling showing an increase from 13 teams to 24 teams and playground ball remaining at 7 teams, as was the case last year. A faculty tennis tournament and golf tournament were promoted by the Department, with 36 individuals competing in golf and 16 in tennis.

There were 243 individuals competing in playground and bowling, which is a very decided increase over last year. Upon completion of the new Physical Education and Intramural Sports Building, a more extensive program of faculty recreation will be offered.

REPORT OF THE JUNIOR DEAN COLLEGE OF AGRICULTURE

H. W. NISONGER

The activities of the Junior Dean during the past year have been many and varied. The program as a whole, however, has been largely focused around two major lines of work: (1) counseling with students, and (2) the improvment of freshman instruction.

COUNSELING WITH STUDENTS

After the opening of the Autumn Quarter the Junior Dean turned his attention primarily to the freshmen, the problem of chief concern being how he could make his office function to the highest degree in helping the freshmen in the College of Agriculture (155 men and 105 women) successfully adjust themselves to their college work.

To begin with, the Junior Dean had at his disposal an abundance of data about each individual student, such as, place of residence, parentage, previous school experiences, intelligence rating, health, financial support, and many other items. This was provided by the University Examiner and was useful in anticipating the needs and problems of the individual student. The next step was to find out how the student was actually getting on in his new university environment.

In order to discover this, the Junior Dean began to call in students and to counsel with them individually. He attempted in the interview to discover the student's intellectual and vocational interests, methods of study, social activities, time spent in working for self-support, point of view with reference to courses pursued, ambitions, and other items which may have a bearing upon a student's success in college. Where special interests were found, an effort was made to stimulate and feed them in various ways. Where difficulties were discovered, an attempt was made to suggest remedies. This very frequently called for a conference with the students' instructors. Students were found where a normal class schedule and working for self-support proved too heavy a load. Students with health difficulties were advised to have a thorough physical examination. Students were frequently found in a rooming environment not conducive to study. These are typical examples of what was attempted through the interview. These friendly contacts with the student paved the way for future voluntary interviews. After the mid-quarter reports came out, problem cases were discussed with all freshman instructors concerned.

Toward the end of the Autumn Quarter, the Junior Dean began to call in sophomores who would soon reach their sixth quarter, which would make it necessary for them to choose their major. Counseling with these students was more purely a problem of vocational guidance. Preparation for this work necessitated the assembling of a large amount of vocational information about the lines of work open to the graduates in agriculture.

Counseling with individual students continued throughout the year. The following table shows the number interviewed during the year:

Quarter		Called In	Voluntary	Total
Autumn	Freshmen	147	25	
	Sophomores	71	15	
	Upperclassmen	23	2	
	Total	241	42	283
Winter	Freshmen	79	42	
	Sophomores	36	12	
	Upperclassmen	27	14	
	Total	142	68	210
Spring	Freshmen	32	48	
	Sophomores	15	18	
	Upperclassmen	11	4	
	Total	58	70	128

In interpreting the above table, one should keep in mind that the figures represent interviews and not different students interviewed. Some students were called in for a second interview during the quarter. These figures represent systematic interviews and do not include a large number of personal inquiries made at the office which could be disposed of in a very short time.

Miss Eve E. Turnbull, Assistant Professor of Home Economics, and in charge of freshman teaching in that subject, has been assisting the Junior Dean by counseling with the girls enrolled in Home Economics. She has developed a very efficient technique of interviewing and has rendered an unusually fine service to the girls and to the freshman program in this respect. Some of this work was done in connection with a personnel experiment described later. The following summary gives the approximate number of interviews conducted by Miss Turnbull.

Autumn Quarter—72 girls called in for one interview. About one-third that number returned for a voluntary interview.

Winter Quarter—81 girls called in for one interview. About one-third that number returned for voluntary interviews.

Spring Quarter—52 girls called in for one interview. Ten girls called in for a second interview. About two-thirds returned for voluntary interviews.

PERSONNEL EXPERIMENT SECTIONS

By the end of the Autumn Quarter the Junior Dean began to see the need of freshman instructors making closer contact with their students in order to direct learning activities more effectively. At the suggestion of Dr. W. W. Charters, a tentative program was outlined and adopted by the Council of Junior Deans. The program is as follows:

1. The cooperating instructor was asked to select a class which would be suitable for the experiment.
2. The Junior Dean agreed to make up a folder for each student in the class containing such personnel data as was available in his office and which would be helpful to the instructor in better understanding the student.

3. The instructor agreed to have at least one friendly interview with each student in the class during the quarter.
4. The instructor agreed to report his findings to the Junior Dean.

During the Winter Quarter the following instructors cooperated in this experiment:

Instructor	Course	No. of Students
C. O. Reed	Agr'l Engineering 401	32
W. H. Camp	Botany 401	32
Eve E. Turnbull	Home Economics 401	25
E. L. Dakan	Poultry Husbandry 401	18

The experiment proved so successful that it was continued during the Spring Quarter. The following instructors cooperated:

Instructor	Course	No. of Students
C. O. Reed	Agr'l Engineering 401	6
L. H. Tiffany	Botany 401	25
Eve E. Turnbull	Home Economics 402	36
F. H. Krecker	Zoology 401	40
W. H. Camp	Botany 401	42
C. R. Arnold	Rural Economics 402	16
H. G. Kenestrick	Agr'l Education 401	9
E. L. Dakan	Poultry Husbandry 401	18

Three other instructors have interviewed all the freshmen in their respective classes.

During the Winter and Spring quarters, bi-weekly group meetings of the cooperating instructors were held to discuss the problems involved in the experiment.

IMPROVEMENT OF TEACHING

For the past twelve years the Department of Botany has been working on a very definite program for the improvement of instruction in the general botany course (401-402). This program has included the formulation of objectives, selection, evaluation and organization of subject matter, and methods used in meeting these objectives, and a close correlation of discussion and laboratory work. The culmination of this study was the experimental tryout this year and the adoption for general use next year of the five-hour-per-week plan of teaching the general botany course, thereby discarding the conventional method of separating the lecture-discussion and laboratory work.

During this time a personnel of instructors was built up with respect to their special fitness to teach freshmen. The instructors have been recruited each year from the ranks of department assistants who were being trained to teach.

A program has been set up for next year by the Botany Department in cooperation with the Junior Dean to expand and intensify the work already done by giving more attention to the supervision of teaching. The supervisor of the general botany course will spend the major part of his time in (1) supervising classroom teaching: (2) holding staff conferences; (3) working with instructors on individual problems; (4) conducting studies looking forward to the continued improvement in teaching the general botany course. An attempt will be made next year to secure a more homogeneous grouping of students by classifying according to ability. Plans are under way at present to build up similar programs in other departments.

STUDENT ORGANIZATIONS

Within the Agricultural College there are student organizations such as the Grange, Dairy Science Club, Horticulture Club, Trowel and Spade, Townshend Agricultural Education Society, Student branch of A. S. A. E., Saddle and Sirloin Club, and Home Economics Club. The Junior Dean has attempted in a limited way to mingle with these groups and inspire a higher regard for scholarship in the College. He plans to do much more of this in the future.

FRESHMAN WEEK PROGRAM

The Freshman Week program is designed as the first step in helping the freshman get adjusted to his college work. Most of the Freshman Week program is designed to make the students feel that they are members of a great University. One deviation from this is the College Night program, where the students are made to feel that they ae not only members of a large University but of the College as well.

The Junior Dean served on a committee appointed by the Dean of the College to plan for the College Night program. This program was designed to accomplish two definite purposes. The first was to acquaint the students with the organization of the College of Agriculture, with its relationship to Ohio State University, and the nature of the work offered by the College. This was accomplished through an illustrated talk by Dean Vivian. The second, to get the students acquainted with each other and with the college faculty, was done through organized games under the leadership of Professor R. B. Tom, Rural Recreation Director of the College. This program was pronounced a decided success by both the freshmen and the faculty.

The Junior Dean also substituted for a faculty leader for two days of the program and performed other minor duties.

SURVEY OF AGRICULTURE

The Junior Dean was given charge of the Survey of Agriculture, a one-hour course (two quarters) for men students, designed to orient the student into his college work and into the field of agriculture. The College Dean and chairmen of the different departments assisted in furnishing the subject matter for this course. The Junior Dean also cooperated with Miss Faith Lanman in giving the Survey of Home Economics.

Beginning in the fall of 1929, the Survey of Agriculture will be offered as a three-hour course for one quarter, required of all freshman men students. It is planned to expand and intensify the work set up in the original survey course. More attention will be given to helping the freshman orient himself into his college work. The Junior Dean plans to teach this course.

REMEDIAL INSTRUCTION

The Junior Dean was asked by Mrs. Luella Pressey of the Department of Psychology to conduct one section of the remedial reading classes organized for freshmen at the opening of last Autumn Quarter. This required meeting the class one period per week for six weeks.

The Junior Dean also assumed the responsibility for the guidance of all probation students in the College throughout the year. The numbers on probation by quarters were as follows:

Autumn, 1928	42
Winter, 1929	54
Spring, 1929	35

At the beginning of each quarter the probation students were called together and the meaning of probation was explained. Also some of the factors which make for success or failure in college were discussed. Later in the quarter each student was called in for an interview. In the Autumn Quarter 71 per cent successfully cleared up their probation record, and in the Winter Quarter 60 per cent.

The Junior Dean sees a need of remedial instruction for probation students and hopes to be able to arrange for such instruction in the future.

BULLETIN FOR HIGH-SCHOOL SENIORS

A systematic effort has been made this spring to acquaint high-school seniors in the rural schools with the nature of work offered by the College of Agriculture. This was attempted in the following ways:

1. Letters were sent the teachers of vocational agriculture and high-school principals in approximately 1,000 Ohio high schools asking for the names of senior boys who they thought would be interested in knowing more about the work offered in the College of Agriculture. The returns brought approximately 2,600 names.
2. A twenty-six page mimeographed bulletin entitled, "What Would a College Education in Agriculture Mean to Me?" was written by the Junior Dean in cooperation with the Dean of the College and the faculty. This, together with a letter, was sent to the 2,600 boys.
3. Contact was made with teachers of agriculture and county extension agents enlisting their help in getting in personal touch with these boys.

It is hoped that this information will be of service to those boys who may be interested in preparing themselves for rural leadership either on the farm or in some of the agricultural professions.

PREPARATION OF A PRE-COLLEGE GUIDANCE BULLETIN

One of the most significant and promising recent developments in the field of education is provision for educational and vocational guidance. Marked progress is being made both in the secondary schools and in the institutions of higher learning. Guidance officers are called upon to give advice with reference to choice of a college, courses of study and curricula, choice of a life career, personal fitness, and many other problems. To do this intelligently requires much information and experience.

The Council of Junior Deans realized that a valuable service could be rendered to the high-school principals of Ohio (who are charged with the responsibility for the guidance program) by furnishing them information about what happens to students while in college, especially at the Ohio State University. The Junior Dean was appointed chairman of a committee authorized to assemble and publish such data. The work of this committee resulted in the publication by the Ohio State University Press of a thirty-five-page bulletin

entitled *A Suggested Program of Pre-College Guidance for High Schools.* This was sent to approximately 1,500 high-school principals and superintendents in Ohio. It was also sent to those in charge of teacher-training institutions in the state and the Ohio College Association mailing list. The committee enjoyed the hearty cooperation of the State Department of Education in this project.

STUDY OF SPECIALIZED CURRICULA

For some time the College of Agriculture has had a general curriculum in Agriculture and specialized curricula in Horticulture, Entomology, and Home Economics. The question has been raised as to whether the College should offer specialized curricula in other fields. A committee was appointed by the Dean of the College to study the problems in this area and make recommendations to the College faculty. The Junior Dean was invited to work with this committee. Out of the committee's study came a uniform freshman year which was adopted by the College faculty last autumn.

In conclusion, the Junior Dean wishes to acknowledge that Dean Alfred Vivian has been the guiding spirit in the development of this program and has given it his enthusiastic attention and support at every vital point.

REPORT OF THE JUNIOR DEAN
COLLEGE OF COMMERCE AND ADMINISTRATION

C. W. REEDER

At the conclusion of the first year of my service in the College of Commerce and Administration as Junior Dean, I wish to present to you a brief summary of the outstanding features of the year's activities.

A NEW VENTURE

Naturally the period has been one of experiment. The office of Junior Dean was new. The area of work was entirely unexplored. Duties and functions were undetermined. We began, not knowing what was involved, except that the educational processes at Ohio State were to be humanized, even under mass production conditions. Just where we have come out after a year is another question. A backward look reveals some definite policies initiated, a few experiments tried, some factual data secured from researches on college problems, and much experience gained. However, only a dent in the problem has been made. The future procedure in this work perhaps seems a little more clear, and the objectives are much better defined.

RELATIONSHIP WITH THE COLLEGE ADMINISTRATION

In the College of Commerce, the attitude of the administration has been cordial and sympathetic toward the new experiment. It has given the fullest cooperation in working out plans sponsored by the Junior Council. The Junior Dean has had practically a free hand to try anything and everything within reason. He has appreciated the clear and wise judgment of his associates and the hours of valuable time given to the discussion of problems within the junior division area. He therefore takes this opportunity to express his formal appreciation for the sympathetic cooperation extended in these efforts to get at the difficulties of the freshman year and to improve the situation for all persons concerned.

Until the appointment of the Secetary to the Junior Dean in February, 1929, all the clerical and stenographic work was done by the office staff. At times this was quite a burden, but it was assumed quite cheerfully. Ever since February, many extra services have been given on various projects. It is such cooperation by all persons connected with the College organization that have made possible some of the things which have been undertaken during the year.

One of the first questions of administration related to office files. The decision was made for a centralized file, accessible to everyone on the staff. Since office files in the College of Commerce are highly organized and efficiently managed, it seemed absolutely undesirable to set up duplicate student folders or other records. Time and experience have proved the wisdom of the decision.

The same policy has been followed with other features of office administration. The existing order has been utilized whenever possible, thus capitalizing on the experience and ability of the main office staff, and avoiding unnecessary duplication.

SECRETARY TO THE JUNIOR DEAN

The Board of Trustees provided for the appointment of a Secretary to the Junior Dean, effective February 15, 1929. Miss Ruth Cotterman, who was appointed to the position, has filled it with a very high degree of efficiency. Were it not for her, the Junior Dean would have been unable to serve on the Freshman Week Council or to study statistically the fundamental problems raised in student personal work. With some rearrangement in office quarters, there can be organized a service which will function much more smoothly and effectively than under present conditions.

JUNIOR COUNCIL

The Junior Deans, together with the President and Professor W. W. Charters, constitute the Junior Council.

Meetings have been held weekly. At these times policies have been worked out, as well as the general techniques for their accomplishment. Each dean then has had the problem of adapting the policy and technique to his individual college. During practically the entire year, Professor Charters has been the directing genius of the Council. His vision and clear insight into the problems that abound in the Junior Division have been of inestimable value to the Junior Deans. As a group we have prized our association with him. We hope it may be possible in some way to accomplish and put into practice in the various colleges the ideals which he has set forth as being embodied in functions of the Junior Dean. In addition to the weekly meetings of the Council, various conferences have been called of groups of instructors for the discussion of educational problems. The Council also held a two-days session in May at the Manor House of the Springfield Country Club. At that time careful consideration was given to plans for work for the ensuing year.

JUNIOR DIVISION ENROLLMENT, COLLEGE OF COMMERCE, 1928-1929

The size of the group constituting the Junior Division in the College of Commerce is seen by the following statistics:

	Freshmen			Sophomores			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Autumn Quarter, 1928									
Gross Enrollment ...	582	142	724	356	85	441	938	227	1165
Withdrawals	22	6	28	13	4	17	35	10	45
Net Enrollment	560	136	696	343	81	424	903	217	1120
Winter Quarter, 1929									
Gross Enrollment ...	494	114	608	346	79	425	840	191	1031
Withdrawals	17	2	19	15	4	19	32	6	38
Net Enrollment	477	112	589	331	75	406	808	185	993
Spring Quarter, 1929									
Gross Enrollment ...	427	109	536	320	97	417	757	206	963
Withdrawals	13	7	20	7	4	11	20	11	31
Net Enrollment	414	102	516	313	93	406	737	195	932

The above records have been drawn from statistics compiled in the office of the University Registrar. The Registrar and her staff have been most helpful in supplying data on the records of students and on other matters of university administration.

STUDENT INTERVIEWS

One of the most important duties of the Junior Dean is to conduct student interviews. His office door has always been open to students, and he himself has been available a large portion of each day for friendly conference and advice. The student contacts in the College of Commerce, however, cannot be measured in the work of one person. The Assistant to the Dean, in her office, has made probably more contacts with students than any other person on the staff. She has been able to handle many of the problems that might go to a Junior Dean under a different form of office organization and routine. Her office has been to some extent a clearing house, by which students in special need of assistance have been referred either to the Junior Dean or to the College Secretary or the Dean for further conference. However, not all student interviews have originated in her office. Many have been sought voluntarily by the students themselves, and of course others have been "requested" for various reasons. The members of the faculty, too, have referred a number of students who have presented especially difficult problems.

It is not possible to present statistically the number of interviews conducted during the year, as exact records were not kept. However, from memoranda of notes on cases, approximately one-hundred more or less formal interviews have been conducted in each of the Autumn, Winter, and Spring quarters. Some of the interviews lasted an hour and in addition involved conferences with physicians and other interested parties, such as parents, relatives, and close friends.

It is difficult to classify these interviews, but in general they have clustered around such problems as choice of courses, change of courses, transfer to other colleges, withdrawal from courses, scholastic difficulties in certain courses, withdrawal from the University, and readmission following dismissal. There have been problems of employment and health that have needed careful attention in the adjustment and evaluation of student hour loads. Emotional attitudes, habits of study and conduct have been particularly difficult to adjust. One stands almost helpless in knowing what is the *one best thing* to do for a student under such conditions as noted above. Only as we amass data on student behavior and attitudes, and enrich our experiences with hundreds of individual contacts, can we even approach to the measure of the opportunity presented for guiding and advising intelligently the students directly under our supervision.

Following a student conference, it has been the practice to make a few notes on the salient points involved. These data have been added to the personnel folder maintained for each student in the centralized office record files. If the decision of the interview required a definite action of some kind, an effort was made to get the specific thing done. This involved at times the violation of accepted college procedures and university rules. The students have been handled as individuals, not as a mass. Efforts have been made to get solutions that fitted the specific problems in each individual case.

In connection with the student contacts, some conferences have been held with parents. Correspondence also has been carried on with parents in rela-

tion to the college program of their children. The cooperation secured between parents and the college office has been valuable and constitutes a powerful asset in dealing with students.

TYPICAL CASES

As revealing some types of cases handled during the year, the following brief summaries will show what was involved in the conditions presented by several different students, and how the solutions were worked out.

A boy dropped down in a chair in the office and said he was discouraged with his work and not getting along very well. A little questioning brought out the fact that he was not feeling well. It developed that he had had the flu at the Christmas holiday and had returned to school in January, not fully recovered. However, he had kept going for the next five months under a good deal of self-imposed pressure. Obviously the first step in this case was a medical examination. The Student Medical Service was called and an appointment made. Upon examination, the boy was found to have fever, high pulse, and severe bronchial congestion. Preliminary examination gave a hint that the congestion and fever might reveal a condition more serious than a severe cold. With the medical report at hand, it seemed the best thing for the boy to go home. He demurred, largely on account of parental attitude. So the father was called by long-distance telephone and the situation explained to him. He readily agreed to do what was best for his son. The withdrawal records were completed and the boy went home. A letter was sent to the parents explaining the situation in detail. The Student Medical Service also wrote to the family physician. The case is not yet closed. The boy has been in bed some six weeks, and his recovery has not progressed as rapidly as desired. However, he hopes to return to school in the Autumn Quarter. It is practically certain that, if his case had not been caught when it was, scholastic failure with dismissal would have resulted, and considerable impairment would have occurred to his physical condition.

A certain girl was reported by her instructor as being one of the most brilliant students in his class. However, she had told him that her finances were strained and that she would be unable to attend school longer than two quarters. The girl was asked to come to the office for an interview. Her story was most thrilling, one filled with desire for a college training in her chosen field, but handicapped by lack of finances. As the policy is to conserve the superior student, here was an opportunity. It happened that a few days previous to this interview a luncheon engagement was kept with the employment manager of a large department store in the city. He indicated his desire to get in touch with students who showed abilities in this field. A conference was arranged, and he employed the girl on a half-time basis with a salary sufficient to meet ordinary expenses. She has now completed three quarters of work, and next year is to be a campus representative for the organization. She will be able to complete a full course in the College and in addition has a permanent business connection established.

A boy failed three courses in the Autumn Quarter. He petitioned for readmittance. He pleaded "tender age," being sixteen years old. He had done high school in two years with ease. He presented what seemed to be a clear case of unadjustment to college life—the first time away from home and parents (the baby of the family), a fraternity pledge living at the house, lack of

methods of study, etc. He was readmitted on several conditions, one of which was a removal from the fraternity house. During the quarter, his class standing was checked and found deficient. He was called in for another conference on the class reports, and showed what was in the offing. At the end of the quarter he failed three courses again, so was dismissed a second time. He petitioned for readmission again. He said that he didn't know what it was all about at college yet, but he had now found out and was ready to work. The decision was that he had better remain out of school for a period before trying it again. The trouble began at this point. Fraternity brothers pleaded his case; instructors of the boy became interested (?) and spoke a good word for him; his mother came from a distant city, accompanied by a professor in an Ohio college to plead his case. The Dean, the Assistant to the Dean, the Executive Committee of the College finally became involved. There was talk of an appeal to a "higher" authority. Hours upon hours were consumed before he and his friends accepted the dismissal, but it stood. The failure was due primarily to social causes, chief of which was the boy's fraternity. He was told "nothing" would happen, and that he need not worry over a dismissal. The family was kept in beautiful ignorance of conditions, and only learned the truth in our office.

A boy came into the office for a conference in the Autumn Quarter. He and an instructor were apparently at swords points. A failure ensued, which meant a probationary status. A telephone conversation followed with an irate father, in which he read the "riot act" on the courses, textbooks, instructors, etc. He said he guessed he would have to send his boy to a Tennessee university so he could get the right kind of an education. When matters cooled down, the boy was entered for the Winter Quarter. During that quarter the boy nearly bothered the life out of me. However, his numerous calls and much talk gave plenty of data for study. A long conference was held during the quarter with the father and mother which shed much light on the boy's study habits and general character. Gradually there was driven home to him some points on study and student conduct. The quarter ended and he made 43 credit points. The Spring Quarter he did slightly better than 1.8. He has quit a lot of his "kiddish" actions and has made a distinct effort to improve certain behaviors. He has succeeded to a degree almost unbelievable. He may never graduate, but at least his stay in the University has been prolonged sufficiently so he will never forget some things which transpired in his first year in college.

A girl entered the University in the Autumn Quarter. She lived at Neil Hall, and had such a good time she failed work enough to place her on probation for the Winter Quarter. During this quarter several conferences were held with her. She disliked the established order of things and protested about things generally. More failures occurred, so she was dismissed from the University. She petitioned for readmission. The girl has an aunt in the city who has a strong personality. She wanted to take her out of the dormitory, and place her under very strict surveillance as to study time, associations, recreation, etc. The girl's mother came to the city and in a conference agreed to the plans of the aunt. Accordingly, readmission was recommended. The arrangements were carried out exactly as planned. The girl made a point ratio during the Spring Quarter of 1.9, although she failed a five-hour course. How much is due to the personality of the aunt, or how much is due

to the development of any self-determination on the part of the student is uncertain. The fact remains, however, that an opportunity was given for a readjustment under different conditions, and the girl succeeded.

CONFERENCE OF POTENTIAL FAILING FRESHMEN—AUTUMN QUARTER

As soon as the mid-quarter reports were available in the Autumn quarter, a list was prepared of freshmen who were in danger of failure in one or more courses, or who because of potential D grades were in danger of a probationary status for the ensuing quarter. These freshmen, numbering 236, were called together for a group conference in November. An attempt was made to explain to them the seriousness of the situation and the necessity for increased application on their courses of study. For this meeting a blank was drafted, which each freshman present was asked to fill out, and in which an effort was made to draw out in the freshman's own language the reason for his present low standing. The statements on the blank were used later in personal interviews and still later in analyzing applications for readmission, following dismissal for low standing. It is extremely difficult to measure the net results of this conference, but echoes of it have been heard throughout the year in later private conferences.

EFFICACY OF THE MID-QUARTER REPORT ON FRESHMEN

In connection with the work of the Autumn Quarter, the question arose as to how valuable the mid-quarter report was in forecasting the academic standing of the students. To answer this question and to find out just how much weight should be given to the reports in student interviwes and in correspondence with parents, an evaluation test was undertaken.

Instructors in the University issued 2,966 mid-quarter reports on 501 C. and A. freshmen, enrolled in 54 different courses. The grades were divided into two groups, "satisfactory" and "unsatisfactory." In this "satisfactory" division there were 2,179 grades, or 73.5 per cent of the total; in the "unsatisfactory" division there were 787 grades, or 26.5 per cent of the total. At the end of the quarter, a correlation was made grade for grade. At mid-quarter, 144 grades were recorded as "unsatisfactory." At the end of the quarter 102 (84.7 per cent) were still unsatisfactory; that is, were either D or E. At mid-quarter, 204 grades were recorded as failure, E. At the end of the quarter 130 (63.7 per cent) were still failure; 58 (28.4 per cent) had been raised to D. Only twelve of the forecasted E's received a C and two made B's. The situation among the forecasted 389 D's was somewhat better. The number actually getting a D was 168 (43.1 per cent); the E's were 58 (14.9 per cent). If we add the "incompletes," there were 236 unsatisfactory grades, or 60.6 per cent of the forcasted group. If we total the unsatisfactory—E and D—grades forecasted at the mid-quarter, we have 737 unsatisfactory grades. Of this number 528 remained unsatisfactory, or 71.6 per cent of the grades anticipated. However, not all the grades which were reported as unsatisfactory at mid-quarter remained unsatisfactory at the end of the quarter. Dealing in totals, not with the individual grades of C, B, or A, there were 2,128 satisfactory grades at mid-quarter. By the end of the quarter, 295 (13.8 per cent) dropped to unsatisfactory.

If a crude generalization could be drawn from the above analysis, it would be somewhat as follows: If a freshman is reported as being unsatisfactory

in a subject at mid-quarter, the chances are three to one he will be unsatisfactory at the end of the quarter; if, however, he is reported satisfactory, the chances are eight to one that his record will remain satisfactory.

FOREIGN LANGUAGE REQUIREMENT IN COMMERCE CURRICULUM

Student interviews in the Autumn Quarter revealed a situation in foreign language which challenged attention. Student after student complained of inability to understand the foreign languages which are a part of the requirement in the college. Every known device and excuse was worked in an attempt to evade this requirement.

In order to ascertain the extent of language deficiencies in the college, a restudy was made of the statistics of student mortality which were collected for the Central Committee on the Freshman Problem and under later financial grants by the President. In general over a period of three years the records indicated that approximately 22 per cent of C. and A. students in the language courses were delinquent. As between French, Spanish, and German, German seemed to be the least disastrous, with Spanish and French next in order as trouble makers. The delinquencies in German ran from 7 to 15 per cent of the enrollment; Spanish, from 21 to 23 per cent; and French, from 23 to 27 per cent. A rather extensive statistical report was prepared covering the university situation and transmitted to the College faculty as well as to the various language departments. The problem of language requirements was discussed at a Commerce Faculty luncheon on March 5, 1929, also at a conference of the Junior Deans with the heads of the language groups. Some two hundred letters have been received from Commerce graduates and from Ohio business men in response to a direct request for information concerning the use of forign languages in modern business.

The problem of foreign language is still with the students of the college. The trouble seems to more deep-seated than the mere fulfilling of a language requirement. The high-school records of 78 students who did unsatisfactory work in a foreign language in the Autumn Quarter were examined; and with but one exception, all the students had had trouble in that area with their languages. They repeated in college their language experiences in high school. Whether the attack on this condition is a modification of the language requirement for the College, or the modification of schedules for individual students in light of their past language records, or the development of new techniques by the language departments in teaching foreign languages, or the improvement of the basic training in high school is still an open question. The fact remains, however, that nearly one-fourth of the Commerce freshmen are having difficulty with foreign language; and, for quite a number, the language failure is the one which puts them on probation and eventually out of school.

MATHEMATICS REQUIREMENT IN COMMERCE CURRICULUM

A requirement in the Commerce curriculum which is protested with considerable frequency by students (especially Sophomores) is Mathematics 421, College Algebra. A study of the mortality of Commerce students in this course reveals the fact that approximately 20 per cent of the enrollment in that couse fail each quarter. Furthermore, instructors in courses involving mathematics unanimously complain of the lack of essential preparation in this subject.

The problem presented alike in student interviews and faculty conferences seems to revolve around the sufficiency of Mathematics 421, College Algebra, to give the mathematical training needed for commerce courses. The subject was presented to the Commerce faculty at one of its luncheons, and a committee reported on May 21, 1929. The main recommendation provided for a job-analysis of the mathematics involved in the Commerce curriculum and the addition of a new course to contain the necessary content. When this change takes place, it is anticipated a large part of the trouble in mathematics will be eliminated.

READMISSION OF FRESHMEN

At the end of the Autumn and Winter quarters, a number of dismissals occurred for low standing under Rule 264 and 266. Among these were many first- and second-year students. The Executive Committee of the College considered the situation of this group and voted to adopt a liberal policy of readmission, provided the Junior Dean had gone thoroughly into each case and was satisfied that there was more than an even chance for the dismissed student to make good in the ensuing quarters.

Accordingly from among the students applying for readmission to the Winter Quarter, fourteen were picked as deserving another chance. Six failed again, so were dismissed a second time at the end of the quarter. Eight made the minimum standard, six with point-hour ratios above 1.8. All eight started the Spring Quarter. One withdrew, and another transferred to Agriculture. Two of the group made 1.8 in the Spring Quarter, while the others managed to keep above the minimum. Only one has made 1.8 in both quarters following readmission.

For the Spring Quarter, eighteen students were approved for readmission. One withdrew during the quarter. The grade of another has been delayed in the course. Five failed again, so incurred dismissal at the end of the quarter. Twelve met the minimum standard, and eight made better than 1.8 on the quarter's work. Thus, two-thirds of the Spring-Quarter group succeeded in re-establishing themselves, making a much better record than the Winter-Quarter group.

INTERVIEW SECTIONS

In connection with the program of the Junior Council, there were organized in the College during the Winter Quarter three "interview sections," of 76 students, as follows:

Social Science 400—J. D. Blanchard.....18 students
Social Science 400—J. J. Spengler.....25 students
Social Science 401—E. N. Yantes.....33 students

In the Spring Quarter, there were six sections, with 184 students, as follows:

Social Science 400—J. J. Spengler.....32 students
Social Science 401—J. D. Blanchard.....34 students
Social Science 401—H. J. Bitterman.....25 students
Social Science 401—E. N. Yantes.....30 students
Social Science 401—M. L. Fair.....33 students
Sociology 410—B. F. Timmons.....30 students

Each instructor definitely agreed to render certain services to the students in these sections. He agreed to show a friendly attitude, to devote at least 15 minutes to each student in an interview, to teach special methods of study

that might be useful in the course, to assist the slow or retarded student, and to expand or widen the content for the superior student. The Junior Dean prepared for each instructor a personal history record for each student in his class. The data were drawn from various university records, such as the blue personnel blanks, the high-school credits, scores on tests, and correspondence. The results of these personalized contacts were interesting. Without exception the instructors found the interviews stimulating, and the students themselves reported them helpful in discovering that their instructors were bone of bone and flesh of flesh with themselves. One of the most difficult factors in this interviewing procedure is the time element involved. Single interviews ran over the allotted time, and multiple interviews occurred, so that the procedure drew heavily upon the instructors' time and energy. It is not far short of the truth to say that one hour of interview time was spent with each student per quarter. The Junior Dean desires to record here his appreciation to the men of the college who participated in this interview project. It required extra time and effort and was done largely because of the great personal interest taken in the student.

The plan has been approved by the Junior Council to extend the interview technique as rapidly as possible throughout all the elementary courses. This is a large order, and involves many serious questions. For example, there is the office situation. Instructors cannot conduct a student interview satisfactorily in a room where a number of other instructors or students are present. Then there is the question of load. Is it fair to require an instructor to teach 15 hours a quarter, spend 75 to 100 hours in private interviews, and do part of his paper work, not to mention the necessity for class preparation and study for professional advancement? Plans have been perfected to place all elementary sections on a 25 enrollment basis. This spreads the student body out, but not an instructor's time. How far will this policy be violated, if three 25 sections are combined into two sections of 37 and 38 students, and the instructor teaches 10 hours, but uses the other hours for personal interviews? Also, how far is it possible to go in meeting a class four times a week, plus the personal interview, yet cover the necessary content? Undoubtedly, we shall have to experiment some more to get the best answer to the above questions. The interview is certainly of great value to teacher and to student. It remains to develop the best technique for its installation and maintenance.

TEACHING

During the Autumn Quarter, the Junior Dean taught a section of Social Science 400 students. In the Winter Quarter, he taught a section of Social Science 401. In the Spring Quarter, as the result of a number of internal adjustments in the College, it became necessary for him to assume direction and supervision of the work in Social Science 400 and 401. The assignment of topics and readings for both courses was revised and issued in mimeographed form. Four sections were given of Course 400, with 144 students and two instructors; in course 401, there were seven sections, 209 students, and four instructors. The instructors were assisted in checking written work by four readers. In connection with these courses, the Junior Dean visited each section at least once for the full class period. Following the visitation, a group conference was held with all the instructors, and several private interviews with individual instructors. The class work, and particularly the instruction work, of the teachers was found to be of a high order. The chief burden of

the course centered around the assembly once a week, where either the Junior Dean or an outside speaker addressed the students on an appropriate topic related to the course of study.

In addition to the above, the Junior Dean participated in the Remedial Reading Project in the Autumn Quarter, carrying one section of students throughout the training period. He has also substituted occasionally for his colleagues in the Marketing Division of the B. O. department, when they were unable to meet classes.

REMEDIAL READING

Under direction of Professor Luella C. Pressey, the University conducted in the Autumn Quarter a remedial reading project for all freshman students who made scores from 1-25 on the reading section of the intelligence test which was given during Freshman Week. The College of Commerce had 155 students "sentenced" to this project. Six training periods were given, together with two test examinations.

The Junior Dean taught a section of students during this period. He was also concerned with the "cutters" and with those trying to avoid the whole program.

When the project was over, an attempt at evaluation was made. The standard for improvement was set at percentile 45 on the reading section of the intelligence test. Some 66 Commerce students attained this score. The general attitude of students toward the work was sympathetic although there were many who were antagonistic. As to its final utility, we are not certain. A most complete analysis of the results on the entire group has been made by Professor Pressey and has been published as Bulletin 55 of the Ohio College Association.

CONFERENCE OF PROBATION STUDENTS—SPRING QUARTER

As soon as the list of students who were serving a probationary status for the Spring Quarter was received from the Registrar's office, a conference was arranged for a discussion of study programs and other conditions surrounding college work. In anticipation of this conference, a very complete report blank was worked out in cooperation with Professor H. A. Toops of the Department of Psychology, in which an effort was made to dig into the various phases of student activities which were involved in the delinquency.

As a result of this conference, a number of students were called in for private interviews, in which the opportunity was taken to go deeply into the records and causes for failure. The written replies on the questionnaire used in the formal conference have been analyzed. One thing stands out very clearly about this group; namely, that probation, as a status, has little or no motivation for increased application to the duties at hand or modification of activities undertaken.

SUPERIOR STUDENTS

In the year's work, little has been done for the superior student, although he was the subject for discussion at several Commerce luncheon conferences. One of these talks was given by the Junior Dean. A study was made of the students scoring highest in the intelligence test, and it was found that mortalities, probations, poor work, and withdrawals exist in that group as in others, although not to as great a degree. It was hoped that instructors in the inter-

view sections would be able to adapt their course content and projects to their superior students, but only in isolated cases has this hope been realized. Plans are now being formulated to provide educational projects and an additional load of hours for the fuller utilization of the abilities of this group.

In the election to Phi Eta Sigma, the College contributed ten freshmen who made a point average of 3.5 on either the Autumn Quarter alone, or on the combined Autumn and Winter quarters. Three sophomore girls were elected to Scholaris on the basis of their freshman grades. To be eligible to election, a girl must have 3.5 on three quarters' work, consisting of at least 45 credit hours.

ANALYSIS OF STUDENT PROGRAMS

It has always been a firm conviction with me that sound advice and intelligent procedure should be based on proved facts and not on guess work. Accordingly, it has been my purpose to test experimentally in the classroom and with students suggested changes in procedure and management, and then to collect, analyze, and interpret the results.

In line with the above policy, an attempt has been made to analyze the programs of Commerce students in the freshman and sophomore years. An elaborate questionnaire has been perfected with the assistance of Professor H. A. Toops, in which an effort has been made to get some of the essential elements in student life and conduct, and to measure these factors in relation to the students' success. The chief points under investigation are as follows: amount of study time devoted per week to each course of study; the amount and character of outside employment; the extent of participation in extra-curricular activities; the living conditions; fraternity or sorority membership; and migration from college to college. Some six hundred students have filled out the blanks. When the returns have been tabulated and the results interpreted, the experiences of these students will make a record that should be very illuminating when dealing with any students in this group in a personal way. The facts will constitute a valuable basis from which to advise students next year on the utilization of their time. Considerable light will also be thrown on the study time requirements for individual instructors and their courses.

SURVEY OF INTRODUCTORY COURSES, 1929-30

Following the adoption of the university budget in May, a survey was made of the introductory courses in the various departments to see what provision had been made for personnel and for the reduction in the size of sections. The situation in all departments, except Accounting and Social Science, was found to be highly satisfactory. In Accounting, by some skilful maneuvering, the situation for next year can be made satisfactory; but for the following year, an addition to the personnel will be necessary. In Social Science, the situation was relieved by the subsequent appointment of an additional instructor. So, as matters stand now, all the introductory work in the College has been placed on a satisfactory basis. Barring resignations and with new appointments made, we shall be able to start the next year under very auspicious conditions.

FRESHMAN WEEK COUNCIL

The Junior Dean of the College has been able to render service to the University as a member of the Freshman Week Council. During the early

part of the Autumn Quarter, time was devoted to an appraisal of the activities of the exercises of 1928 and to the preparation of the formal report to the University Faculty. Beginning with March 1, 1929, time has been given to the details of the program for September, 1929. Until one has been actually connected with a project of this size and importance, he is absolutely unaware of the large amount of time and energy consumed in the perfection of plans which must be run off smoothly within a five-day period.

ENTRANCE BOARD

The Junior Dean has served during the year as a member of the Entrance Board. This has been his first experience in this area. It has been valuable for giving an insight into the problems that are involved in the selection and induction of thousands of students into a college career.

REQUESTS FOR 1929-30

As the work of the year has progressed, it has been evident that expansion is needed in the office of the Junior Dean. The first problem is office quarters. Room 115 was assigned at the opening of the Autumn Quarter. It has proved unsatisfactory for several reasons: (1) nearness to the men's toilet; (2) access to students who open the door without knocking and break in on private conferences; (3) size too small to give sufficient room for my secretary. To remedy this situation, request is made for Room 108, which can be remodeled to provide the facilities desired. The new room will give a private office where conferences can be held without interruption, and an outer office for the secretary, as well as a waiting room for students.

The second request relates to a student-labor fund. In the preparation of the records of students for instructors' interview sections, time is a prime requisite. The records have to be written up from the data in the files. After preparation, they must be typed. This year records were made by the stenographic division in the main office. The final copies were not finished and in the hands of instructors until after four weeks had passed. The best method now seems to ask for a special student-labor fund of $100 per quarter, to be used at the opening of each quarter for typing these personal-record cases. This system will insure much more rapid service, and enable us to get the data to the instructors within the first two weeks of the quarter.

The third request relates to an assistant to the Junior Dean who will devote practically all his time to interviewing students. If we are to drive for more personal contacts, personnel will have to be provided to do it. In this College of Commerce it would take one person ten weeks to get around the freshman class once, if he gave thirty minutes to a student and interviewed six hours a day. If the sophomores were added to this schedule, it would require fifteen weeks. He would not have time to adjust anything turned up in the interview. Confronted with this interviewing problem, and the other duties now crystallizing around the Junior Dean, eventually relief must come in this area, if such services are to be emphasized and required.

The fourth request is an indorsement of the request of the Bureau of Education Research for a "research unit" to be devoted to the problems arising in the area of activities of the Junior Deans. One of the greatest handicaps of the year has been the lack of definite information on problems that we face.

With an effective research unit in operation, we would soon take some of the guesses out of our conferences and be able to proceed with much more assurance in our suggestion for definite action.

OBJECTIVES FOR 1929-30

The minutes of the Springfield Conference contain the objectives set up by the Junior Council. Not all these plans, however, can be carried out in a year. A few are being selected for special emphasis in the College of Commerce next year.

1. Student interviews to be conducted in greater number so as to reach more individuals in need of assistance and to bring into actual use the results of researches on study time and other features of student life.
2. Interview sections to be continued and extended into new departments.
3. Organization of directors of courses to be effected for class visitation supervision.
4. Acquaintance to be extended with all instructors teaching in the Junior area through personal contacts and class visitation.
5. Study to be made of the curriculum as related to the first two years of college work.
6. Research projects to be undertaken on questions arising in student and college administration with the idea of getting the actual facts involved.
7. Modification of students' programs to be urged so that superior students may use their capabilities more fully.

APPRECIATION

Professor W. W. Charters has said that no other American university has undertaken a project which is in any way comparable to the area of service being explored and delineated by the Junior Deans. Amid the conditions surrounding the first year's work in this field, I wish to express my deep appreciation for the consideration shown by the President of the University, by the Acting Dean of the College of Commerce, and by my associates on the college staff. It is a distinct pleasure to work amid such relationships.

REPORT OF THE JUNIOR DEAN COLLEGE OF EDUCATION

J. L. MORRILL

It will be borne in mind that the office of Junior Dean is an experiment, that its work has been conducted experimentally, and that the philosophy underlying this work has been, in some respects, tentative.

The justification of the experiment will lie in its effectiveness in the area of education, of learning, and not in any statistical demonstration which might reveal simply a "busyness" with the administration of rules and regulations or other (quite necessary) abracadabra of superficial educational concern.

The central objective has been, and must be, to do something for the student; and the charter for accomplishing this was laid down by the general committee of the faculty appointed by the President to study the "freshman problem," it will be recalled.

In a special memorandum to the Junior Deans in October, 1928, President George W. Rightmire made the following illuminating comment:

> We are not merely encyclopedias of information about the University, nor are we prompt and infallible advisers about human conduct. We *are* to be intelligent and sympathetic students of these young men and women distinctly as individuals, with no universal rules of conduct for intellectual or social activity to be applied to them. To epitomize: We are here to help them help themselves, and in periodic conferences we shall develop a body of experience that will be provocative and illuminating and render each of us more able to attain "self-help" and greater competency as student counselors.

The task of the Junior Dean is, therefore, clearly one of "personnel" in the widest sense. In the operation of the office these central conceptions must consistently obtain:

1. The dominant syllables in the word personnel are those which spell "person." The obligation and the opportunity of the Junior Dean is to give identity to the student—identity in the mass of the student body; identity in terms of his individual differences and potencies; identity as a "person," not as a "typical," disembodied mind, come to college.

2. Guidance must be thought of not as something superimposed upon the educational process, but as a vital and interacting part of it—as education itself. From this viewpoint, guidance will go beyond a facile adaptation of the student to the University *in statu quo*, but will seek also to adapt the University to the powers and ambitions of the student.

Fidelity to these premises gives no escape from the personal interview as the heart and the core of the work of the Junior Dean. Patently, the only way to give identity to "the forgotten freshman" is to find that identity and give it expression. Presumably the only way to reach the individual is to reach him as an individual, and the interview is here again the obvious human approach.

In describing personnel work at the University of Maine, W. J. Creamer makes the statement that the personnel officer can make wide and wise use of research, statistical methods, organized procedures and regulatory techniques, "but" he adds "he must never forget the individual; and his problem is not to

fuse him with the mass average, but rather to separate him from the mass and discover why he differs from the average."

To which might be added that the problem and task are not only to "separate" and "discover," but also positively to help develop deviations from the mass.

The personal interview gives the clue to the *intangibles*, dynamic in education as growth; to the *unmeasurables*—those phases of ambition and aptitude which grades frequently fail to reveal; to the *uncontrollables*—those variables over which the University can exercise no remedial or experimental control (such as specially favorable or unfavorable home situations, emotional disturbances, the necessity for self-support, etc.) but which the informed and sympathetic counselor may take into account, may interpret, may correct or may utilize, in some degree, to the advantage of the student.

THE OPPORTUNITY

Annually half a thousand young men and women come newly to the College of Education at the Ohio State University. These are the assets of the social order; these are the inestimable opportunities that confront the college.

We call them "freshmen," assign them to "courses," regiment them in "classes"—and at once a precious part of their individuality is sunk below the threshold of academic visibility. "We see him (the 'average student') not as a human being, but rather as a point indicated on a plotted curve or a number in a percentile grade," says President Kerr D. Macmillan of Wells College. "Still worse, the average student is not only lost to the view of the college authorities; he is lost to himself. The students in our colleges are so numerous, and the student body is so lacking in any sort of coherence, that the individual feels himself in a crowd where he neither knows nor is known. . . . One who is lost in a crowd is lost to himself."

Somehow to help students find themselves, to bring them above the threshold and help them thrive in their own right is the task of the teacher, aided now belatedly by the personnel workers of the college. The task is difficult, but not discouraging; for it yields promise and human appreciations in almost every effort.

The inner, inspiring story of American college life lies not in hip-flask dance, the coquetting co-ed, the fur-coat phenomena pictured in the pages of "College Humor" or described in the diatribes of weary professional subject-matter specialists. It is to be found, more often, in the files—folders of the personnel office which yield such cases as these:

> Roger J. is a freshman, 25 years old. Family difficulties separated him from his mother as a one-year-old baby. Nine years he spent in an orphan's home. Since fifteen years of age, he has supported himself. After several years work in factories, mines, and on farms, he managed to graduate from high school. Here at the University, carrying a normal schedule with better than a C average, he earns his meals in a fraternity kitchen, and takes care of two furnaces in separate homes outside.
>
> May E. is colored, from "down state." She worked her way through a night high school, then married a Pullman porter-conductor, who is supporting her at the University. She is ambitious to teach kindergarten in colored schools.
>
> Fred O., gifted but largely untrained musician, has been in vaudeville and theatre work since he was sixteen. Lately he was in charge of the orchestra and cabaret entertainment in a Chicago night club. "There's

nothing in that racket," he says—and is hard at work digging out a college education, hoping to teach band and orchestra work in a metropolitan high school later.

Russell R., determined to be a school administrator, is working 10½ hours nightly in a packing company to support a wife and attend the University.

Mildred M. attended the University two quarters and then went back to the farming village which is her home to earn and save enough money to attend school another two quarters. At home she will do washings, pick cherries, do housework, take care of children—"anything I can, so that I can come back."

Though extreme in degree, these cases are typical of the situations and ambitions of hundreds of students upon whom college teachers look, blandly unaware, as they lecture in crowded classrooms.

THE INTERVIEW

Interviewing during the past year has been confined almost exclusively to freshmen in the college, upon the theory that the freshman stands most in need of orientation, both with respect to University environment and changed educational procedures. Many sophomores likewise have been interviewed, but these have been almost exclusively students who came in voluntarily for information or advice, or students who were in academic difficulties such as probation; and in very few cases were these interviews so thoroughgoing or so adequately recorded as in the case of freshmen.

The size of the freshman class in the College of Education during the Autumn, Winter and Spring quarters, 1928-29, covered by this report, was as follows:

Quarter	Autumn	Winter	Spring	
New Freshmen Entering	441	25	16	
Total Freshmen (old freshmen, less than 45 hours, transfers, and new)	569	466	441	
Total freshmen for year				590

The following figures are illuminating:

Total number of freshmen interviewed	339
Men	109
Women	230
Number whose first call was voluntary	63
Number interviewed twice	122
Number interviewed three to seven times	52
Total interviews*	531

* These interviews lasted from twenty minutes to an hour each.

It should be noted that, although only 63 of the 339 freshmen interviewed came first voluntarily to the office for information or advice. nearly all of the students interviewed were called to the office for conference by the Junior Dean entirely without regard to whether they may have been succeeding or having difficulty with their college work. In other words, interviewing was from the outset entirely apart from any considerations of absence reports, probation, or other factors which might call for regulatory or remedial procedures. This policy was made possible through the sympathetic and entirely generous cooperation of the Secretary of the College, Mr. Bennett, who continued to handle all routine matters of registration and regulation, referring to the Junior Dean only those cases in which careful individual attention seemed specially desir-

able. This cooperation on the part of the secretary and his staff was specially requested, to the end that students should not come to look upon the office of the Junior Dean as one concerned with or specially interested in routine or discipline.

In fact, the only criterion utilized in calling freshmen for interviews was that the students should be widely representative of the freshman class, and to this end the policy was adopted of calling in students chosen alternately from the upper and the lower ranges of the intelligence test percentile distribution.

The following table shows the percentile distribution of those interviewed:

Women		Men	
96-100	22	96-100	7
76- 95	81	76- 95	28
26- 75	97	26- 75	43
6- 25	30	6- 25	1
1- 5	0	1- 5	1

This policy had the following effects:

1. The students themselves very quickly got the idea that a call for a conference with the Junior Dean did not imply any difficulty or discipline, and thus it was possible to conduct the interview upon an entirely friendly and somewhat disinterested basis.
2. The interview yielded at once to the Junior Dean an understanding of the fact that the problems of students and of college education are not confined to the mentally inferior, but are quite as real and need quite as much attention among students in the upper intelligence levels.
3. By talking with good as well as poor students, fairer judgments as to the kind and worth of particular courses, and as to the effectiveness or ineffectiveness of teachers in the freshman area could be made.
4. The attitude of the general faculty toward the work of the Junior Dean was probably made more favorable because individual professors soon came to recognize that this office was not interested simply in "coddling" poor students, but had a special interest in facilitating the progress of the gifted and serious student.

In the interview itself these objectives were consciously sought:

1. The establishment, first of all, of a friendly, interested, individual, helpful relationship between the Junior Dean and the freshman.
2. Elicitation of information from the students as to (*a*) their special interests or life career objective, (*b*) their living and study conditions, (*c*) other factors which might have a bearing upon success or failure, such as health, outside activities or self-support, situations which might have an emotional influence upon the student, (*d*) any special problems of which the student himself might be conscious and upon which he might desire, or might profit by, conference, counsel or information.
3. A tentative judgment, by the Junior Dean, as to the total personality impression given by the student—covering such traits as vitality, ambition, courtesy, cooperativeness, the ability to persist, industry, personal attractiveness or the lack of it, etc. This judgment would be, of course, highly tentative and subject to revision, both because it is subjective and because a brief interview is more often than not inadequate for the rating of such traits. But it was thought to have some value in two respects: (*a*) as a background for total judgments which might compensate, confirm or correct impressions that would be given by such ratings as come from the intelligence test and classroom, and (*b*) as bearing upon "teaching effectiveness" and the possibility of vocational counsel based thereon.

4. A basis for helping the student to help himself in the light of the above. Such assistance, of course, might take many forms—additional information which would have a bearing upon the wisdom or unwisdom of the student's vocational choice, assistance in "how to study," strong encouragement of special interests and ambitions, subsequent conference or correspondence with faculty members, parents, other university officials such as the Dean of Men or of Women, etc.

It was the hope that each interview might give to each student two residual effects—a sense of purpose or resolution in some respect, and the feeling that the Junior Dean would genuinely welcome a second conference if later circumstances might make this desirable.

ASSISTANCE TO STUDENTS

In addition to these internal effects upon the student, there was the definite purpose on the part of this office to do something constructive for the student beyond the interview itself.

For example, some 79 letters were written to members of the faculty dealing with the particular needs or capabilities of individual students. Eight students were referred to the Psychological Clinic for more thoroughgoing diagnostic and remedial assistance. In addition to reductions in the schedule load of 16 students made by the secretary's office, the Junior Dean authorized reductions in 38 cases. Fourteen students were authorized by the Executive Committee of the college to carry extra hours, upon recommendation of the Junior Dean. Twenty-three students were registered for Phychology 411 by the Junior Dean, whose interviews with these students had revealed study-habit deficiencies and incapabilities which the remedial-laboratory technique of this course is so effective in correcting. For 30 other students, considerable readjustment in courses was made to conform with capacities and special ambitions and interests.

This office was able to find employment directly for two students, in addition to helping others to find work through the cooperation of the Y.M.C.A. and Y.W.C.A. on the campus. In this connection it is interesting to note that of the 339 freshmen interviewed, 108 were supporting themselves entirely or in part.

HEALTH DIFFICULTIES

Another outcome of the individual interview was the discovery of 22 students seriously handicapped by more or less permanent health deficiencies which had not been reported either by the Medical Examiners in the Department of Physical Education or by the Student Health Service. It should be said, however, that this office has enjoyed very effective cooperation from both of these agencies, and was able to make important readjustments in the college program of a great many students through information supplied by them.

There remains considerable room for improvement in this area. A committee of the Junior Council, of which the writer is chairman, has been appointed to confer with both the Medical Examiners in the Department of Physical Education and with the Student Health Service to the end that (1) a more complete system for transfer of records can be worked out, whereby each of the Junior Deans may have information as to any student in his college whose physical defects are found to be sufficiently serious to warrant attention by either teachers or administrators; and (2) may likewise have prompt notice

of any serious illness or deviation from normal health which may arise subsequent to the original physical examination, and which should be taken into account in connection with the student's educational program.

RELATIONS WITH PARENTS

The parents of students undoubtedly are very powerful and very useful sources of influence and control—and it seemed logical that the guidance counselor should utilize information which may be had from parents and whatever cooperative influences may be enlisted from them, to the utmost. Our work in this respect has not been as effective as we should like, but in certain cases it has accomplished very desirable results.

The attached letter has been sent to the parents of all new first-year students in each of the three successive quarters a week or so after their initial registration. It brought a good many replies, but not as many as might be expected. Its effect, however, was probably more widespread than the replies received would indicate, because a good many students came to the office at the request of their parents who had received these letters, and many students who were called in for interviews referred to the fact that their parents had received the letter.

To the Parents (or Guardians) of Freshmen
in the College of Education, at the
Ohio State University:

May we ask your kind and interested assistance in a matter of very real importance to your son or daughter, and to the University?

The office of "junior dean" is one newly created in the College. It is the business of this official to be in touch, as closely as possible, with the freshmen —to learn of their interests, successes, difficulties, and problems; to aid and encourage them in every possible way.

Your assistance and support are requested earnestly in the following particulars:

1. Will you make it known to your son or daughter that the junior dean will appreciate the opportunity to talk over with him or her any problems, difficulties or disappointments that may arise out of college life and work—thus encouraging the student to regard the junior dean as his "counselor and friend?"
   May we say that we are quite as anxious to talk with students who are getting along fine in every respect as with those who may be "in trouble" of some sort. The object is simply to become acquainted with just as many of the freshmen as possible and to talk over with them their courses and interests and experiences in order to help them along the road.
2. If there are facts or situations in the pre-college life of the student which we here at the University ought to know in order to deal more sympathetically and intelligently with the student, will you feel free to write us about these—with the definite understanding that any such information will be held strictly in confidence? Not even the student needs to know that you have written us, if you like.

Our concern is really the same as your own: namely, that the student shall be successful and happy in University life and work, to the end that college experience may be vital and productive, leading to real effectiveness in later life. Your assistance will be genuinely appreciated.

Very sincerely yours,

J. L. MORRILL,
Junior Dean

In addition to the form letter, this office has written 117 individual letters to parents concerning the progress and problems of particular students, and received from parents 74 letters concerning their freshman sons and daughters. The office records show 24 personal conferences with parents concerning the problems and situations of their children.

ENCOURAGEMENT OF THE GIFTED

One outcome of the interviews has been the impression that a great many students of high intellectual capacity or even of a little better than average percentile, combined with genuine ambition and the habit of industry, are not kept busy or thoroughly interested by the normal schedule of 15, 16, or 17 hours.

This impression was laid before the Executive Committee of the college and authority was asked to encourage good students to take more than the normal load. The Executive Committee has been generous in indorsing the requests of this office for authority to grant extra hours to such students.

The point-hour ratio earned by students allowed to work on a heavier schedule was higher than 1.8 (which is the University requirement for graduation), and in all except three cases the point-hour ratio was actually above the 2.25 required in the major subject alone by the College of Education for graduation.

The results of experimentation upon a heavier schedule for freshmen and sophomores has been so encouraging that this office, during the Spring Quarter, definitely suggested either by letter or by conference to 57 superior students the positive advisability of undertaking a heavier than normal schedule henceforth.

Certain other deviations from the normal procedure in the case of gifted students have been undertaken by this office. For example, certain courses in Sociology, Philosophy, and other subjects are listed in the catalogue as "not open to freshmen." At the request of the Junior Dean, the Department of Sociology authorized one student to enroll for Sociology 401 and this student earned a grade of B. The same procedure was followed in the Department of Philosophy, and here again two students emerged with a B.

The 600 courses are not open to freshmen, but the Graduate School, upon request of this office, authorized one student to take Public Health 602 and this student received a grade of B in the course; another student was authorized to enroll in Italian 601 and received a grade of B. Another student, with the consent of the Graduate School, has been authorized to enroll for English 658, and still another student to enroll in Psychology 601—both taking effect next fall.

It will be the policy of this office, provided the Dean of the College approves, to encourage registration of this kind in cases which seem to the Junior Dean to be logical ones for exception to the rules.

INTERVIEW SECTIONS

"I like to be an entity to my instructors. If they realized how anxious their students are to know them, they would exert every effort to make such acquaintance possible."

Professor Earl Hudelson, in quoting this answer to a questionnaire sent to students at the University of Minnesota, makes the further comment in his

recent book, *Class Size at the College Level*, that "the fact is inescapable that the underclassmen, particularly the freshmen, have a yearning for pupil-teacher associations that is not being satisfied."

Upon the premise that personal contact is central in the personal approach, and with a full understanding of the fact that the teacher has after all the finest opportunity to come close to the student, the College of Education has given the fullest and most enthusiastic cooperation to the so-called "interview section plan," initially suggested and devised by Dr. W. W. Charters.

This plan is illustrative of the indispensable ingenuity and leadership which Dr. Charters has contributed to the personnel experiment conducted by the Junior Council during the past year. In the College of Education, especially, we have profited by his constructive and informed judgment at every step in the development of the guidance program.

The purposes and techniques of the "interview sections" have been described in the minutes of the Springfield Conference of the Junior Council which have been hitherto brought to the attention of the Dean and the President.

Four specifications were set up for procedure, it will be remembered:

1. A friendly interview of fifteen minutes should be held with each student in a section.
2. The gifted student should be located and either held to higher standards of performance or provided with extra problems which lie along those lines of his special interests which are related to the course.
3. Weak students should be identified and helped by the instructor and by reference to other sources of aid if further assistance is needed.
4. Each student should be taught how to study the material presented in the section.

This procedure was supplemented by the preparation of a folder for each student, by the Junior Dean, giving to the teacher all possible information as to the intelligence percentile, high-school ranking and academic record of each student, his aims and interests and attitudes, his personal and social background, the nature and extent of outside employment or extra-curricular activities, personality data on women from the Dean of Women's files, etc.

In the College of Education nine such "interview sections" were conducted during the Winter and Spring quarters—five in Psychology 401, and one each in Psychology 402 and 407, Fine Arts 423, and Music 478. The total number of students thus reached by personal interviews was 297, of whom only 120 were Education students and only 83 were Education freshmen; but 158 were first-year students in Education and other colleges.

The comment of teachers conducting these sections has been uniformly favorable and enthusiastic. This feeling is shared by the students who, in an anonymous answer to a questionnaire requesting their opinions, replied in at least 75 per cent of the cases that they not only felt a personal benefit from the interview, but urged that it might be extended to other classes.

FRESHMAN CURRICULUM

The educational and vocational counselor comes at once at grips with the curriculum. And to him the curriculum means not only courses of study, but also the way courses are taught. Both phases of the curriculum (in this sense

of the word) have large bearing upon motivation. Both are the "conditioners" of success or failure, because jointly they constitute the college nurture to which student nature is subjected.

Curriculum-making, it is recognized, is properly outside the province of the personnel office; and college teaching largely outside its control.

In the latter area, the cooperation of the Junior Dean with supervisors of freshmen teaching (as in Elementary Psychology) may be helpful; and a constructive, thoroughgoing program of supervised teaching in as many freshman subjects as possible will probably become the major objective of the Junior Council next year. In the College of Education, the program of supervised teaching in General Elementary Psychology, already under way under the direction of Dr. William R. Wilson, furnishes an admirable opportunity for continued experimentation and improvement.

"Nor were the special aptitudes or inaptitudes of the pupils given any consideration," says Paul Monroe in discussing the educational doctrine of "formal discipline" which dominated the schools of the seventeenth and early eighteenth centuries. "For, since these studies, with their appropriate discipline, furnished the best possible preparation for every obligation that life made upon education, those pupils that were unable to meet the demands of such a training were ipso facto incapable of fulfilling any of the higher offices or functions in life or of meeting the requirements of any of its greater opportunities."

This conception apparently is not entirely outworn in all academic areas, and the naïve assumption that students are means to subject-matter ends still obtains in some quarters.

Embodied in curricular "requirements" and "prerequisites," this dogma does double damage when focused through the lens of a legal uniformity upon students of widely differing interests, capabilities, and preparation.

Thus, all College of Education freshmen are required to register for English 401, regardless of proficiency in placement tests. All freshmen offering an entrance unit in chemistry are placed in Chemistry 411 (if they elect or are required to take chemistry) regardless of placement tests or whether their high-school chemistry was taught by splendid teachers in the best equipped high-school laboratories in the state or by an incompetent teacher with no laboratory at all.

So, too, a considerable group of College of Education freshmen are required to take one course in which 82 per cent, with a median intelligence percentile of 53, were given grades of D or E; and in which 51 per cent, with a median intelligence percentile of 51, were failed outright. (These figures are based upon grades in this course for the Winter Quarter, 1929.)

College of Education freshmen are required to register for ten hours of biological science, choosing Botany or Zoology as a rule. The numbers enrolling in both are sufficiently large to yield approximately a normal curve distribution of intelligence percentiles in each. During the Autumn Quarter, 1928, 29.9 per cent received unsatisfactory grades of D and E in one course, while 42.7 per cent received the same grades in the other course.

The question is not raised as to the soundness of the curricular requirements in these cases, but it cannot be denied that the outcomes, as measured by academic success or failure criteria, are equivalent to serious abortions in motivation. If education is something more than the ability to reproduce information (unreliably measured at best), if true learning is indeed "the

creative reorganization of experience," if there is any value in "success at the outset" as an incentive to progress, then the University is defeating its own purposes in some respects.

The Junior Dean will be dependent upon the cooperation of the Executive Committee of the College and of certain department heads in attempting the correction of the situations described above, as well as others equally distressing; and specific recommendations for relief are being presented in each case.

READMISSION CASES

Data secured by early interviewing of individual students was exceedingly useful to the Junior Dean in making recommendations to the Executive Committee for action on petitions for the readmission of students dismissed from the University under the rules.

In all such instances the attempt was made to consider constructively the student's case "on its merits"—in other words, to attempt the salvage of the student, and to assist him to continue in the University, if this seemed indicated, without regard to any "legal" aspects of the matter. In all such instances, likewise, the Executive Committee was generous in indorsing the recommendations of the Junior Dean, when the facts had been fully presented.

Upon such a policy, it was to be expected and was fully recognized in advance that errors in judgment and in prediction would be inevitable.

A summary of action taken in the case of all freshmen and its outcomes for the year is as follows:

Disregarding actions taken or pending at the end of the Spring Quarter (because it is impossible to report the academic success or failure of these students until the end of the Summer or the Autum quarter), 50 freshmen were notified of their dismissal under the rules at the end of the Autumn and Winter quarters combined.

Of these 50, 26 were delinquent under Rule 264, which provides that the student must earn points equal to two-thirds the number of hours carried; and 24 of the 50 were delinquent under Rule 266, which provides that students on probation shall earn five points in excess of the number of hours carried and shall pass at least two-thirds of their work.

Of the 50 students thus slated for dismissal, 18 were readmitted upon recommendation of the Junior Dean with the following results:

As the result of their work during the first quarter after readmission, ten of the 18 met University requirements, entitling them to continue their college education (though two of the 10 again went out under the rules at the end of the second quarter after their readmission).

Six of the 18 did not confirm the judgment of the Junior Dean as to their possibilities of success and were again dismissed at the end of the first quarter after readmission.

One of the 18 withdrew during his quarter of readmission because of illness; and another, though authorized to continue, was prevented from returning to the University for economic reasons.

INTERESTS AND VOCATION

Though college experience is too often thought of as "preparation for life" instead of as life itself, the college is undeniably, for most students, the final formal step which brings them to the threshold of adult responsibility and an active (instead of somewhat artificial) orientation in the social order.

From this viewpoint, the special interests of the freshman, whether or not they may be construed as the equivalent of a "life-career objective," are of

vital importance in two respects: as factors in motivation and college success, and in the light of vocational opportunities after graduation.

The Junior Dean's and the Appointments Office are thus directly interrelated as they bear from opposite angles upon the welfare of the student.

Facts supplied by the Appointments Office as to teacher demand, supply, and placement in the various subject-matter areas have been of great value and significance in counseling with freshmen. At the suggestion of the Junior Dean, Dr. Earl W. Anderson, chairman of the Appointments Office, has consented to prepare a special pamphlet for freshmen dealing with vocational opportunities in the teaching field, and to supplement this information by talks to freshmen in the Autum Quarter Educational Survey Course conducted by the Dean of the College. This should be directly helpful to the first-year students in choosing their major and minor subjects.

On the other hand, at Dr. Anderson's suggestion, the Junior Dean next year will undertake a cooperative experiment with sixth-quarter sophomores whereby such students will be interviewed by both offices and rated, or tested, as to "teaching personality" and "social intelligence"—with two objectives in view (1) the value of such ratings in the light of ultimate placement and teaching success, and (2) the opportunity for wise guidance in the selection of a major, or indeed of continuing professional preparation at all.

Meantime, the Junior Dean is making an independent study, from interview data thus far collected, of the motivational value of the life-career objective in academic success or failure at the freshman level.

The distribution of declared special interests or vocational purpose among freshmen thus far interviewed is summarized in the following statement. It will be borne in mind that many of these interests are ephemeral and will change as the student undertakes new subject matter, gets additional information as to vocational opportunities, discovers his own aptitudes or deficiencies, or is otherwise influenced; but they are a fairly representative cross section of what the College of Education freshmen think they like or want to do.

INTERESTS OF FRESHMEN

Accounting	2	Kindergarten teaching	3
Sciences	14	Landscape Architecture	8
Cartoonist	1	Latin	8
Commercial Art	5	Law	5
Commercial buyer	1	Mathematics	15
Commercial teacher	2	Medicine	2
Dentistry	1	Music	15
Dramatics	1	Newspaper Art Critic	1
Elementary Teaching	22	Physical Education	62
Embalming	1	Romance Languages	18
English	1	Science-Nursing	7
Fine Arts	13	School Administration	1
German	2	Social Science teaching	1
History	18	"Special Education"	2
Home Economics	6	Welfare Work	4
Industrial Arts	4	Writing	1
Interiar Decorating	4	Uncertain	65
Journalism	5		

These tentative generalizations may be inferred from the interviews:

1. Freshmen subject-matter interests are more often than not the result of special subject-matter proficiency in high school and of encouragement by a well-liked high-school teacher.

2. Brilliant students are more often definite in their declaration of special interests than those of low percentile.
3. The frequently flimsy bases of vocational choice should be supplanted, as rapidly as possible, by a program of testing in the area of aptitudes and interests, complementary to the present intelligence testing.
4. An appreciable number of freshmen girls come to college, having selected teaching as their vocation (and the special subject matter they propose to each, on the sheer impulse of imitation, arising out of their affection or respect for an outstanding teacher of a particular subject in their local high school.
5. A great many girls from the rural districts choose teaching almost without thought, because of their ignorance of other economic and professional opportunities now open to women, and with no regard to their own fitness or the demand-supply situation in teaching.

RELATION WITH THE HIGH SCHOOL

The effectiveness of guidance work at the freshman level will be directly improved in about the extent that a thoroughgoing program of guidance in the high school may be established and articulated with that of the University.

As a beginning in this direction, and at the instance of the Junior Council, the Junior Dean of the College of Education, together with Dr. H. A. Toops and Junior Dean H. W. Nisonger of the College of Agriculture, prepared a *Suggested Program of Pre-College Guidance for High Schools* which was distributed to all high-school principals in Ohio during the spring of 1929.

The writer has also been appointed the chairman of a special committee of the Junior Council to study further the relationships of the University with the high schools and to bring in recommendations for a program of high-school contact and visitation which may be in some respects similar to that now undertaken by the Universities of Minnesota and Michigan.

REPORT OF THE JUNIOR DEAN COLLEGE OF ENGINEERING

WILLIAM D. TURNBULL

In the flood of recent books and magazine articles concerned with higher education, only a few titles need be mentioned to show the present pessimistic and questioning attitude toward the subject. *Quack Doctoring the Colleges, Am I Getting an Education?, The Meaning of a Liberal Education, What Ails Our Youth?, Kindergarten or College*—the names themselves indicate a skepticism of educational methods and at times a feeling of unrest and conscious superiority on the part of critics. Such consciously smart terms as "Orientation Ointment," "Freshman Week Panacea," "The Job-Analysis Serum," "The Antioch Antidote," show that not all educators are willing to put their shoulders to the wheel, but prefer to stand at a distance making jibes at the efforts of those who are trying to carry on educational work and improve conditions.

Undoubtedly many of the indictments of mass education are true. Students *are* lost in the crowd. Personal contacts are not attained. Criticism is more to be welcomed than deplored, for in our enthusiasm about our systems and methods we may overlook some obvious errors. One cannot, however, but feel sorry for the apparent pessimism and sadness of most of the critics. Eighteen years as a teacher of freshmen and sophomores and a year in the capacity of junior dean have given me a feeling of confidence in the earnestness and serious purpose of our engineering students, and an optimism regarding the youth of today who in such large numbers are seeking a higher education in our colleges and universities.

It is possibly true that we do not receive as high-grade material on the average as those privately endowed schools which select their candidates on the basis of high-school scholarship. Our student body is a typical cross section of the youth of our state. Few of them are rich, few are exceedingly poor; the great majority are sons of people in moderate circumstances and are eager to work to pay part of their expenses in college. Most of the boys that we receive are in the first generation of their families to receive a college education. Statistics obtained in the Survey of Engineering class show:

EDUCATION OF PARENTS

Fathers college graduates	38
Fathers not college graduates	288
Mothers college graduates	21
Mothers not college graduates	305
Both parents college graduates	8

To show that our students are not members of the idle rich class, or that they at least feel the desire for and need of work during the summer, the following may be of interest.

In answer to the question, "What do you expect to do this summer?" the replies were:

Work	303
Travel	5
Summer school	54

Other interesting facts about this typical freshman class are:

121 are pledged to a social fraternity.
202 are not.
27 have taken part in extra-curricular activities.
196 have not.
288 feel that Ohio State has satisfied their expectations of college, while 25 answered "no."
180 expect to engage in extra-curricular activities in the sophomore year.
95 have no ambitions for these activities.
101 felt that the regular first-year schedule for Engineers is too heavy.
221 did not so feel.
137 felt that they had got all that was possible out of their freshman year.
148 did not so feel.

PERSONAL CONTRACTS

One of the primary purposes in appointing the junior deans was to humanize our educational methods. During the Autumn Quarter *all* the freshmen of the College of Engineering were called to the office for a personal and friendly interview with the Junior Dean. The number of interviews in response to the call from the college office was 434. In addition, there were 24 voluntary interviews.

In the Winter and Spring quarters the only students summoned to the College office for interviews were those having scholastic or other difficulties. The number of such interviews with freshmen was 106 in the Winter Quarter and 73 in the Spring Quarter. There was a decided increase each quarter in the number of conferences sought by the freshmen themselves, 31 in the Winter Quarter and 48 in the Spring. This increase is regarded as significant of the confidence of the students and their desire to lay their problems before the Junior Dean.

The scope of the interviews ranged from advice on the choosing of a career to questions of mental hygiene. The record of each interview was filed with the personnel record of the student.

The aforementioned conferences were with members of the freshman class, only. In addition, the Junior Dean interviewed all of the sophomores on probation and had a number of voluntary interviews with the second-year men.

Work of keeping records and compiling statistics was considered important but only incidental to the personal and friendly character of the interviews. It is hoped that the Junior Dean will be able to do something which cannot be catalogued and systematized and reduced to statistics.

Personal contacts were for the most part with the students, but a number of parents called at the College office to inquire about the progress or difficulties of their children. At times parents suffer more than the students about problems of scholarship and adjustment to university conditions. One of the tendencies which must be combated in a great university is to deal with the students as just certain raw material. These students are the sons of parents who are vitally interested and the Junior Dean was impressed with his responsibility in advising and reassuring the parents. Occasionally there is talk about spoon feeding, wet nursing, and coddling. I have been impressed by the fact many times that those who are most hard-boiled when children of others are considered are vitally interested in the personal contact of their own children with the instructors. If this be coddling, let our critics make the most of it.

Besides the personal contact with parents, the Junior Dean has written a number of letters of a personal nature in answer to inquiries about the prog-

ress or difficulties of students. Here again the situation calls for tact and a sympathetic understanding of conditions. One has only to read the letters of gratitude from such parents to feel amply rewarded for the trouble of considering each case by itself and not by any set rule of procedure. While the writing involves work and may in time become a burden, this is a matter in which we must not count the cost. In this connection I am reminded of a remark of President Rightmire at the first meeting of the Junior Council: "We must spend ourselves in the effort to make every young man or young woman who enters the Ohio State University feel that he or she has had a fair chance at an education."

Additional personal contacts or what might be called some of the extra-curricular activities of the Junior Dean enabled me to meet students in all classes and in all colleges. The Engineers' Council, a body of students initiating and supervising most of the activities of the College of Engineering, made the Junior Dean an honorary member. At the Engineers' Round-up, the Junior Dean and Professor C. E. Sherman gave a humorous debate. The fireside sessions at various fraternities gave an opportunity for discussion of personal and life problems. At these sessions I sought the opinion of the students about the opportunities and duties of a junior dean. I received many valuable suggestions from the students and became more convinced than ever of the need for a closer understanding between instructor and students, of the need of professors who, as the students put it, are "human." In some instances the boys were not at all backward in giving their ideas of what constitutes a good instructor and as to whether the professors came up to these qualifications. In these conferences I was impressed with the sense of fair play possessed by our students. They are good sports.

During the Christmas vacation, Mrs. Turnbull and I accompanied the Scarlet Mask Club on the ten-day tour of cities in Indiana and Ohio. We were the recipients of much courteous attention on the part of members of the Club. These social contacts with the students I consider very important as part of the humanizing activity of the junior dean.

That the students are appreciative of getting acquainted with members of the faculty is shown by the replies of the class in Survey of Engineering to the question: "Do you favor more personal contacts between the faculty and students?" "Yes" answered 295; only 30 voted "No."

PERSONAL RELATIONS OF JUNIOR DEAN AND INSTRUCTORS

During this first year of my service as Junior Dean I have felt that if the ideal personal relationship is to be kept up between instructor and student there must first be some such personal relationship existing between the Junior Dean and teachers of freshmen. It would be unfortunate if the personal work should become perfunctory and each instructor felt that he had been detailed certain personal duties by the chairman of the department. After informing the chairman of my plans, I have gone directly to the instructors and asked for their help because I wish the personal interview work to be voluntary and not "under compulsion from above." In the earlier years of my own experience as a teacher, I recall that I had very little acquaintance with the administrative officers. I knew them, of course, and they knew me, called me by name, but there the acquaintanceship ended. The ideal that I have set before myself as Junior Dean is to know the instructors of freshmen at least as well as we are insisting that the instructor shall know his students.

Working toward this acquaintanceship during the past year, I have taken advantage of various opportunities for contact with the instructors. A number of the departments giving freshman instruction have invited me to luncheon meetings. I have visited the departments on various occasions and made it a point to talk with the younger and newer instructors.

If at least one friendly interview between instructor and student is highly desirable to humanize our educational methods, I have been asking myself, why not a similar personal interview between the junior dean and each instructor? This, it seems to me, is very essential if we are to get the best results and the highest degree of cooperation.

FRESHMAN WEEK

There is perhaps no other agency now being used in the solution of the freshman problem which is of greater importance than the exercises of Freshman Week. It is significant when a hundred faculty members volunteer to give their time and energy to aid the freshman in his adjustment to university conditions.

That the freshman appreciates what is being done for him is shown by the votes of the students at Survey of Engineering. In answer to the question, "Did Freshman Week help you?" 247 answered yes, 54 answered no.

SURVEY OF ENGINEERING

One of the most pleasant, and, in my opinion, most valuable, activities of the Junior Dean was the weekly contact with *all* the freshmen at the Survey of Engineering lectures. This orientation course, started several years ago by Dean E. A. Hitchcock, has ever been peculiarly *his* course for the guidance of freshmen in the problems of their university life and in helping them to select from the broad field of engineering the branches which best fit their desires and capabilities.

During the Autumn Quarter the Survey of Engineering course consisted of lectures by Dean Hitchcock. In many cases this was the only contact which the Senior Dean had with the freshmen. That his advice on university and private matters and that his genial personality made a profound impression are shown by the results of an unsigned questionnaire at the end of the Spring Quarter. Of 215 answers to the question "Which man on the Engineering Faculty do you consider most admirable?" eighty selected Dean Hitchcock. This is remarkable in view of the fact that 23 names appear, that Dean Hitchcock received 50 more votes than the next highest man, and that the intention in wording the questionnaire was to get an opinion of the instructors, not of the administrative force.

In the Winter and Spring quarters the Junior Dean presided at the Survey of Engineering lectures given by the heads of the different departments and by practicing engineers. The following lectures were delivered during the year:

Dean E. A. Hitchcock
"How to Study"
Dean Hitchcock
"Engineering Interests about Columbus"
Professor J. E. Boyd
"The Study of Mechanics"
Dean Hitchcock
"The Characteristics and Qualities of the Engineer"

Dean Hitchcock
"Engineering and Engineering Fields"
Dean Hitchcock
"History of Engineering at Ohio State University"
Professor C. E. Sherman
"Civil Engineering"
Professor W. T. Magruder
"Mechanical Engineering"
Professor F. C. Caldwell
"Electrical Engineering"
Professor John Younger
"Industrial Engineering"
Professor Charles St. J. Chubb, Jr.
"Architecture and Architectural Engineering"
Professor James R. Withrow
"Chemical Engineering"
Professor H. E. Nold
"Mining Engineering."
Mr. Charles M. Ripley, General Electric Company, Schenectady, New York
"The Romance of Power."
Professor A. S. Watts
"Ceramic Engineering."
Professor D. J. Demorest
"Metallurgical Engineering."
Professor Alpheus W. Smith
"Engineering Physics"
Professor Clyde T. Morris
"Structural Engineering."
Mr. Ralph H. Sweetser, American Rolling Mill Company
"The Human Side of Engineering."
Dean E. A. Hitchcock
"The Feats of Engineering."

The influence of the lectures in guiding the students in the selection of their courses of engineering is not particularly marked. In the questionnaire, 76 reported that they were aided by the lectures in making their decision, 245 stated that they were not influenced. This is largely due to the fact that the students have made up their minds before entering, and the lectures confirm them in their decisions. The value of the lectures in giving a general view of engineering is incontestible.

Some may depreciate the value of survey and orientation courses. Better than philosophy about the wisdom of such courses or the opinion of educators and critics is the feeling of the students themselves as to the value of the work. In the questionnaire the students were asked; "Have you gained anything from this course in Survey?" The response was almost unanimous, 323 answering yet, and only 10, no.

INTERVIEW SECTIONS

The establishing of interview sections in the separate colleges constitutes one of the major problems which the Junior Council has attacked during the year just passed. It was felt by the junior deans that the personal interview of the freshman with his junior dean should be supplemented by several such interviews with his instructors.

At the fifth meeting of the Council, held December 4, 1928, plans were made for the setting up of demonstration interview sections. In three of the colleges such sections were instituted during the Winter Quarter. I found that similar interviews had been carried on in the classes in English under

the direction of Miss Sada A. Harbarger for the past seven or eight years. Numerous students and former students had been so enthusiastic about the help received in these English conferences that I felt it advisable to use the methods already developed. After conferring with Miss Harbarger, it was agreed that three of the English sections would be conducted as experimental demonstration interview sections during the Spring Quarter.

The specifications for procedure in these demonstration sections (modified slightly from the methods already used by the English instructors) were:

1. A friendly interview (about 15 minutes with each student).
2. Gifted students to be located and either held to higher standards or supplied with extra problems which appeal to their special interests.
3. Weak students to be identified and aided in overcoming their difficulties.
4. Individual attention and special assistance in study methods and course content.
5. Keeping a record of the interview with a personal estimate of each student's characteristics.
6. Making a report to the junior dean of the interviews with students.

Miss Harbarger and Mrs. Hitchcock conducted the interviews and have submitted very interesting reports on their work. These reports deal with the technique of the interview, and cite specific instances of the help which has been rendered all classes of students, slow, average, and bright, both in connection with their English work and also with their personal problems.

The students' opinion of the value of the interviews is shown by the unsigned questionnaires filled out at the end of the quarter and on file in the Junior Dean's office. These replies are summed up in the following table:

	Mrs. Hitchcock		Sada A. Harbarger	
	Freshmen	Sophomores	Freshmen	Sophomores
1. Were the interviews with your instructor worth while and helpful?				
Yes	42		20	7
No	2		0	0
2. Did the interviews help you in doing with more interest the work of this course?				
Yes	41		18	7
No	3		1	0
3. Did the interviews help you in any ways outside of this course?				
Yes	26		16	4
No	15		4	2
4. Do you think it worth while to adopt in other courses the plan of interviewing students?				
Yes	40		18	7
No	3		2	0

Undoubtedly in the future it will be well to measure the worth of interviewing by means of objective tests, control sections, and a study of the statistics of reduction of probations and failures.

UNIVERSITY WORK AND ACTIVITIES

During the past year I have continued my duties as secretary of the College and secretary of the Executive Committee. In addition I have been secretary of the Junior Council. In order that I may be more free for the work

of the junior deanship, I have asked to be relieved next year of the secretaryship of the College and of the Executive Committee, although I wish to retain membership on that Committee.

During the Autumn Quarter I was in charge of one of the remedial reading sections for those students whose records on the university intelligence tests indicated that they needed additional practice in reading.

At the request of the University Examiner, I prepared a list of the requirements for entrance to the College of Engineering. This statement contained a list of the units required, and also advice as to sequence and content of high-school courses to enable the graduate to enter the College of Engineering without deficiencies.

Other university administrative duties included the chairmanship of the Committee on Registration and Information of the S.P.E.E. convention and membership on the Committee on Final Examinations.

During the year I have visited a number of manufacturing plants and engineering establishments and prepared descriptions of the places visited for radio dialogues with J. M. Weed of the Engineering Experiment Station. This contact with outside engineering practice is very helpful to me in my personal interviews, and I feel that the time is most profitably spent. I gather information which is of great help to the student in his choice of a career, and know of no better way to acquaint myself with modern engineering practice.

A minor duty, but one that I have enjoyed, is the preparation, also with Mr. Weed, of the College of Engineering notes for the *Ohio State University Monthly*.

PLANS FOR NEXT YEAR

This first year as Junior Dean has, very naturally, been one of pioneering. The hopes and aspirations of the junior deans have been well set forth in the minutes of the Springfield Conference. At that meeting a most ambitious program was suggested, parts of which will require several years to bring to fruition. In that report a score or more of items were enumerated, some of which will provide interesting material for study.

The plan of demonstration interview sections—three in all during the past year—is to be extended to all twelve sections in Freshman English. This will give us a remarkable set-up, because all the instructors in this department are experienced in interview work. This extension of the interview plan will mean that every first-year engineering student will be a member of an interview section.

In addition to the extension of interview sections throughout the English classes, the three senior members of the Department of Engineering Drawing have agreed to conduct similar interviews with the students in their classes. This will give us in the two departments a total of 18 sections operating under the new plan. I have gone very carefully into this problem and know that the men who are volunteering to conduct these sections are known to their students as genial and able instructors.

So far as my own contacts are concerned I plan to continue the interviews with students, particularly encouraging them to come in for voluntary conferences. My desire for increased acquaintanceship with the instructors has already been mentioned. This thorough knowledge of the instructors is, I believe, a necessary preliminary to any work of supervision of teaching.

The supervision of instruction, in my opinion, should be approached slowly, making use at present of the existing organization for that purpose. For the coming year I hope to acquaint myself with the methods of supervision already employed in the College of Engineering. When the men competent by knowledge and temperament to supervise teaching have been discovered, they should be relieved of some of their teaching load so that the work of supervision shall not become perfunctory and desultory. I believe that supervision of teaching should be introduced by the same process of infiltration as is being used in the establishment of demonstration interview sections.

These plans for next year will involve a large amount of work. The duties, however, are pleasant, interesting, stimulating, and give one a sense of accomplishment. The increase provided in the clerical staff of the College office will facilitate the handling of personal records and correspondence and enable me to conserve my own time for the personal contacts which are so essential.

So far as possible, I expect always to be available for personal consultation by the students and to avoid grounds for the criticism that we have humanized education by what might be called "mass production of personal contacts."

METHODS AND TECHNIQUE OF TEACHING

The reports of some of the departments place special emphasis upon the manner of conducting the work, and teaching procedures; and it has been thought well to collect at this point a few of the more complete descriptions of the teaching. This has had emphasis, also, in the reports of the Junior Deans; but the reports of the chairmen of the departments give an intimate touch which should be felt here. Other departments have made mention of particular study being given to teaching procedures, but have not placed the emphasis upon that phase of the work which is found in the reports herewith copied.

THE TEACHING OF GENERAL BOTANY

PRESENT STATUS AND FUTURE PLANS

A. Accomplishments to date:

For the past twelve years the Department of Botany has been working on a very definite program for the improvement of instruction in the general botany course (Botany 401-402). This program is as follows:

1. The formulation of objectives of a general botany course that would meet, so far as conditions permit, the desires of a number of departments. particularly in the Colleges of Agriculture, Arts, and Education for an introduction to the fundamental principles of biology.
2. Considerable progress has been made in the selection, evaluation, and organization of the subject matter and the methods used in meeting these objectives effectively. As a consequence, our general botany course is made a special feature of the Department and is decidedly unlike the traditional and usual introductory courses.
3. An attempt was made to correlate the laboratory and discussion as closely as conditions would permit. The laboratory and field work were used as an observation-discussion period in preparation for a more general discussion during the quiz periods.
4. The latest projects attempted were directed toward the establishment of a course on a five-hour-per-week basis.
   a) Last year the diagrams and drawings usually required of students were given in mimeographed form to the students. The usual objection that this procedure is detrimental to observation is groundless. As a consequence, the University Press now supplies the diagrams and drawings required in the course. Methods of saving time in the handling of materials in the classroom were devised.
   b) This year four experimental sections each quarter were organized on a five-hour-per-week basis in an effort to correlate the discussion-demonstration and laboratory work even more closely. This proved so successful that all sections are being planned on that basis next year.
5. Definite plans were laid to build up a personnel of instructors with respect to their special fitness to teach freshmen. The instructors have

been recruited each year from the ranks of department assistants who were being trained to teach.

6. A program of training was outlined for assistants and instructors as follows:
   a) Weekly staff meetings were held for a period of two years where the subject matter and methods of teaching general botany were discussed. Numerous meetings were held at irregular intervals in subsequent years.
   b) Individual conferences were held as frequently as seemed necessary to assist instructors with their individual problems.
   c) Each assistant was required to observe the laboratory work in a course for an entire quarter before being given charge of a laboratory in that course. The same requirement was made before being allowed to conduct discussion work.

B. Plans for the future:

Plans are under way at present to expand and intensify this program during the next year in order to bring the teaching of general botany to a still higher degree of efficiency. The following program has been outlined:

1. Observe classroom teaching. The supervisor will observe an instructor at work over a period of time of sufficient length to enable him to offer helpful criticism. He will make an analysis of the teaching observed and discuss it frankly with the instructor. This can be done as frequently as seems desirable. An attempt will be made to assist the instructor in making a self-analysis and in checking his own progress. It may be advisable for the supervisor to plan a unit of work with the instructor before observing his teaching.
3. Hold weekly staff meetings to discuss problems suggested below.
3. Have individual conferences with instructors when needed.
4. Direct the observation of instruction by having instructors observe some experienced teacher and then discuss an analysis of the teaching with him.

The supervisor will also section students on the basis of ability, so far as this is possible. He will also assign instructors to these sections according to their special preparation and fitness.

The following are some of the more important problems which will be attacked by the supervisor through staff meetings, individual conferences with instructors and other ways:

1. The organization and teaching of general botany courses on the new five-hour-per-week basis. Selection and organization of the subject matter, determination of aims and objectives and teaching procedure.
2. Methods of setting up problem situations and getting the facts before the students as a basis for discussion.
3. Methods of measuring the results of instruction.
4. Basis for grading students where sectioned on basis of ability.
5. Special methods of teaching bright and slow groups.

6. The technique of interviewing students, use of personnel data, and diagnosing student difficulties.

7. Teaching students how to study and work efficiently.

All members of the staff have cooperated in the development and carrying out of these plans. Dr. Sampson, Dr. Tiffany, Mr. Humphrey, and Mr. Camp have been largely responsible for the progress during 1928-1929. We wish also to record the active cooperation of Mr. Nisonger, Junior Dean of the College of Agriculture, and the Dean, the Assistant to the President, and the the President for our teaching experiments.

FIRST YEAR CHEMISTRY

It is a fair statement to say that the methods of teaching first-year chemistry are constantly under study and observation. This year has witnessed the continuation of a number of pedagogical experiments that were begun before this academic year.

1. The first of these is that of cooperative teaching. Our experiment of presenting in an elementary manner the present views with reference to the ultimate nature of matter was continued this year for the fourth successive time. The President will recall that this series of nine lectures given in the Winter Quarter enlisted the splendid cooperation of teachers other than those immediately entrusted wtih first-year chemistry. The topics and the men presenting them this year were as follows:

(*a*) The Periodic Law (Evans)
(*b*) The Discovery of Radium (Evans)
(*c*) Isotopes (Evans)
(*d*) The Structure of the Atom (Day)
(*e*) Evidence for Existence of Molecules (Mack)
(*f*) The Colloidal Particle (Day)
(*g*) Crystals (McCaughey of Mineralogy)
(*h*) Stars and Atoms (Williams of Astronomy)
(*i*) Matter and Energy (Smith of Physics)

We now feel that this venture has been so successful that we are justified in keeping it a part of our regular work. In this connection the President is reminded of the splendid support which we received from the Department of English in the year 1927-28 in the matter of special instructions with reference to reporting these lectures as a major paper in both departments.

May I suggest that it is my firm conviction that in the idea underlying this special series of lectures will be found the solution of the problem as to what should constitute a so-called cultural course in the physical sciences. During these four years of experimenting with this effort I have slowly become convinced that the Physics, Astronomy, Crystallography, and Chemistry departments of this University might with great profit develop a course in the physical sciences along these ground lines which would prove immensely suggestive and stimulating to the students of the Junior College years who were intending to major in the humanities.

My thought is that such a course extending over two quarters, say, would lose all its charm if it were finally placed in the hands of one man. One of the outstanding advantages to these boys and girls is the opportunity to hear the

specialists themselves present their material. Another impressive feature is the amazing fact—to the student's mind—of continuity and also the interrelation of the various fields of learning.

If the President finds any available time during the summer, I should be glad to answer any questions with reference to what I hope may develop into an "Ohio Plan." Obviously the same idea may be easily superimposed on the field of the social sciences such as history, political science, geography, sociology, etc. I have already talked over the general idea with Dean Shepard and a few friends on the Faculty. Their reaction in every case was very encouraging and stimulating.

2. It will be a source of much gratification to the President to know that Dean Wm. McPherson and Professor W. E. Henderson are maintaining a close working relationship with our first-year work. These splendid and inspiring teachers are full of helpfulness with the first-year students. To have the Dean of the Graduate School and the former Dean of the Arts College teaching first-year quiz classes in chemistry is a fact which makes one pause. As an illustration of Dean McPherson's enthusiasm, I recently found him in his classroom with a number of students about him—all of them earnestly engaged in discussing some points of chemistry. It was then one o'clock. The class had been dismissed at twelve. The Dean and his pupils had forgotten their lunch.

The pity of it is that all our youngsters can't have this sort of inspiring instruction. We are hoping that other members of our Senior Staff will be able to aid us in the quiz work of Freshman Chemistry next year. Several have expressed a willingness to do so.

Dr. Wm. E. Henderson tried the interesting and unique experiment of placing one quiz class entirely on its own responsibility. In this experiment he undertook to give all possible assistance but held no formal quiz and kept no record. The result is expressed in Dr. Henderson's own words: "Almost the exact group average as in the total freshman class, with the same average and failure. The prize winner for freshman chemistry was in this class. In my opinion, worth-while students will profit by this general treatment. Those who will never get on in college (of whom many enter here) will not respond.

4. "During the Summer Quarter of 1928 the Organic Division offered the complete series of courses in elementary organic chemistry. These courses were both accelerated and consolidated. By this arrangement the lectures in Chemistry 441 and Chemistry 447 were combined and given six times per week during the first term. The same arrangement was continued for Chemistry 442 and Chemistry 448 during the second term. The laboratory courses were also given at an accelerated rate so that it was possible for a student to complete the entire two-quarter course in elementary organic chemistry during the Summer Quarter. A total of 38 and 32 premedical students took advantage of these offerings during the first and second terms respectively, and likewise 27 and 21 students in the junior course, making a total of 65 and 53 for the first and second terms. The gross registration for all courses during the Summer Quarter, including laboratory, was 222."

5. The Department offered the first two quarters of first-year chemistry on the accelerated plan during the last Summer Quarter. It also completed the first-year work which began on January 1; that is, we gave the third quarter's work. By this plan the Department of Chemistry is now offering its first-year courses two and two-thirds times per calendar year. We feel that this

plan in the first-year work, together with that used in the Organic Division (noted in the preceding paragraph), is fulfilling a very important service in the life of the University.

6. Those of us entrusted with the teaching of first-year work have been experimenting for several years on the value of the "written exercise" as an aid to good teaching. I wish to make it clear that the spirit of the thing we have in mind is the *educational value* of it rather than those values that come from these types known as a *final examination* or a *mid-quarter examination.* We have conducted this experiment somewhat as follows:

(*a*) When the student presents himself for laboratory work, he is asked to solve either a small number of problems or to answer about five questions bearing upon the work immediately in hand. This takes about ten or fifteen minutes. At the end of the writing period the papers are collected and are immediately graded by the graduate assistants. These are returned to the students during the laboratory period. This affords an excellent opportunity for student and instructor to sit down and go over any difficulties or misunderstandings in the student's mind with reference to the material immediately in hand. The questions are so chosen that the grading is not a difficult task. It can be done quickly. May I also add that each graduate assistant makes a record of the grades thus attained. The advantages which this close personal contact possesses in these large classes must be very obvious to the President.

(*b*) For many years we have been doing the same thing in our weekly quiz work, but by reason of our one-hour period we are unable to return the papers graded until the next meeting of the class. May I say in this connection it has been the practice of those teaching first-year chemistry to return to the student all papers upon which he has done any written work for us. The only ones that are not returned to him are his final examination papers, which he may have for review only if he feels called upon to challenge his quarter's standing.

(*c*) As an illustration of the teaching value of a written exercise, may I point out to the President that in the subject of "Valence and Reaction Writing" it has been our custom to give a series of written exercises extending over the period of a month. This means fifteen or twenty minutes taken out of each laboratory half day for eight successive times. The splendid feature of this plan is the possibility of developing these two topics slowly but very surely. As pointed out above, we return the papers within the laboratory period and have a thorough discussion of the difficulties at that time while the student's mind is very much on the subject. By means of the "written exercise," we are endeavoring to attain as great a mental contact with the large groups of first-year work as it is possible to do. With very much smaller groups this is an end that is not difficult to obtain. But our constant thought is to devise ways and means to reach the student personally.

(*d*) Two years ago we began to experiment with the values that might offer themselves in the practice which is commonly known in the lower grades as "home work." The difficulty at this point was the matter of grading these exercises. We were allotted a small sum of money for readers. This experiment proved to be very helpful indeed. It was discontinued this last year, by reason of a lack of funds. However, for the next academic year it will be again put into operation. Dr. Day, Dr. Fernelius, and I myself are looking forward with much anticipation to a full year of this sort of thing on the part of the students.

7. One of the serious problems which needs the attention of those in authority is that concerning the unusually large numbers of students who are in the premedical course. As this question affects our Organic Chemistry, I am quoting herewith Dr. Boord's excellent account of the problem as he views it.

"The registration in the elementary organic courses for the Autumn Quarter showed an increase over previous years. This was somewhat unexpected

in view of the fact that the complete series of elementary courses had been offered during the Summer Quarter. The ever growing registration in Premedical Organic Chemistry (Courses 441, 442, 444, and 445) forms a difficult problem. Laboratory facilities are provided for 256 students in this course, so that during the past two years it has been necessary for 40 to 50 pairs, approximately 33 per cent, of these students to work "double." These methods suggests themselves for the solution of this problem.

(*a*) The lockers in the premedical organic laboratory are so constructed that they may, at not too great an expense, be divided, thus doubling the capacity of the laboratory.

(*b*) Or, secondly, since this laboratory is not usually used during the Spring Quarter, a readjustment of the premedical schedule might give relief. Since such a readjustment of schedules would involve courses outside of the Chemistry Department, that solution would of necessity be taken up as an Arts College or University problem.

(*c*) The third solution of this difficulty calls for a more complete discussion of premedical education as it pertains to Organic Chemistry. A great many more premedical students present themselves than can hope to be admitted to our medical and dental schools. It may be said, and truly, that many will go to other medical schools. But the fact remains that the situation is general the country over. Large numbers of students are presenting themselves for premedical training who cannot hope to reach the goal for which they are striving. Sooner or later they must be eliminated. Many fail. Many others are unable to make sufficiently good grades to secure admission to any reputable medical school.

These facts call for serious consideration. The Organic Division is carefully studying the problem from two points of view. The first of these is increased efficiency in instruction. The addition of an Assistant Professor to the Organic Division staff at the beginning of the present academic year has been a material aid in this regard, since it is now possible to place the laboratory work of this course under the direct supervision of a man of professorial rank. The addition of a Special Assistant for next year will give further relief. These additions to our staff have made possible our other attempt to increase the effectiveness of the instruction in this premedical course. For the coming academic year, one of the three lecture periods has been divided into six quiz sections. It is hoped that the increased personal contact between instructor and student thus afforded will be reflected in the students' grades.

The second point of view from which this problem is being attacked is as follows: A careful, comparative study is being made, by the Organic Division, of the previous records of the premedical students and their achievement in Organic chemistry. It is fair to ask: Could it have been predicted with fair accuracy that certain of these students would fail to make a satisfactory grade? If it is found that this could have been done the Division of Organic Chemistry may then raise the question as to whether a higher standard of admission should not be set for these courses. Such a procedure, if possible, would effect many savings: A saving of time, money and heartaches to those students who are striving to reach a goal for which they are not fitted; a saving of the instructors' time to those students who will profit most by it; and incidentally a saving in laboratory space."

INSPIRATIONAL CONTACTS FOR FIRST-YEAR STUDENTS

It is a well-known fact that many boys of high-school age have made inspirational contacts of lasting value wtih their teachers in the secondary school work. More especially, reference is made here to the obvious advantages which come to these young students when they are asked to assist their teachers in the matter of preparing laboratory materials and the necessary lecture experiments for the various classes in physics or chemistry. Students attending the smaller colleges also enjoy the advantages arising from this well-known practice.

Dr. Max Mason, while President of the University of Chicago, gave this matter a great deal of his best thought. He became convinced of the wonderful opportunities for good which were here possible. Those entrusted with the responsibilities of first-year chemistry have also been studying this question during the year. After discussing it at some length, it was decided to extend an invitation to our advanced freshmen to make such laboratory contacts with those of professorial rank. It seemed to us that these young boys and girls would profit greatly by such contacts, especially in our research laboratories. We received twenty-five replies to our invitation. Although we did not reach this matter until late spring, yet we placed a few of these students in the various divisions of the Department. The professorial staff is very enthusiastic over the opportunities for mutual helpfulness which the plan presents. We intend to put it into operation early in the autumn. In the few cases tried out, both the student and the teacher seemed greatly benefited by these contacts. It seems to us that many a young student will find himself by such opportunities as this plan offers, although it is not intended that these contacts would necessarily mean that a young student would choose chemistry as his life work.

RECOGNITION OF SCHOLARLY WORK

1. *Professor Edward Mack.*—It is a source of great pleasure to note that our Dr. Edward Mack was the recipient of a Guggenheim Memorial Fellowship for six months of European study. Dr. Mack is now spending his accumulated vacation in the University of Munich, Germany, under the distinguished preceptorial guidance of Professor Sommerfeld, whose brilliant work in the field of atomic structure is internationally known. This opportunity for study on the part of Dr. Mack will be reflected in the work of our students on his return to his post next autumn.

2. *Robert C. Hockett.*—The Department of Chemistry has taken much pride in the fact that one of our graduate students, Robert C. Hockett, has just been awarded a National Research Council Fellowship in Chemistry for the year 1929-30. Mr. Hockett has elected for himself and has received the appropriate governmental authority to spend the year of his Fellowship tenure in the laboratory of Dr. Claude S. Hudson, Chemical Division, Bureau of Public Hygiene, United States Treasury Department. Dr. Hudson is the foremost student of carbohydrate chemistry in America. This opportunity for work with Dr. Hudson is a rare privilege which is greatly appreciated by Mr. Hockett.

3. *Dr. Melville L. Wolfrom.*—The members of our teaching staff have greatly enjoyed having Dr. Wolfrom, National Research Council Fellow 1928-29, as a guest of the Department of Chemistry this year. He has been carrying out a splendid program of research in the field of carbohydrate chemistry, the results of which will soon appear in the *Journal of the American Chemical Society*. Dr. Wolfrom has been very unselfish with his time in that many of our graduate students have visited his laboratory to seek his advice and counsel with reference to their investigations. He has been an influence for much good.

We sincerely hope that future holders of these national distinctions will find it to their advantage to spend some of their tenures in the chemical laboratories of the Ohio State University. Dr. Wolfrom has already expressed to the National Research Council his gratitude for the opportunities which were afforded him for his work here this year.

FINE ARTS

Chairman, JAMES R. HOPKINS

The function of Fine Arts in a university involves the training of professional painters, sculptors, architects, designers, the training of art teachers, and the promotion of culture in the entire community. We can state that these activities have been carried out with some success and a considerable increase in the number of students interested.

The opening of the new laboratories for Ceramic Art has been an event of importance and has been taken advantage of by a satisfactory group. It is worthy of note that juniors and seniors in Ceramic Engineering are electing this work and that other advanced students are coming to the University for these courses.

The present report is an effort to bring before the administration some phases of the manner of teaching Fine Arts. The first need in art instruction is to establish in the students' minds a realization of the fact that this is an opportunity for concrete experience in expression, and there is always an effort to give each student a personal connection with the problem. This is done through arousing his curiosity, through the use of his personal experiences, through a liberty of choice in problems, and through an indirect use of the spirit of competition.

An example of this personal connection is the method used in a course in costume design in which each student has a silhouette made of her own figure. This then becomes the basis of all her problems and the costumes she designs are those appropriate to her proportions. She tries colors and textures on herself and is naturally enthusiastic about applying the theory of design to her own clothes.

The aim of laboratory instruction is to develop an individual point of view and the technical skill to express this in the various materials used by artists. This aim has led to teaching methods which are largely peculiar to Fine Arts. Even though an entire class has the same problem—as an object to draw, a model to paint, or a ceramic shape to decorate—each student's solution is entirely individual. There is no single "right" solution as in mathematics or in a chemical analysis, but a different, individual solution for each student. This precludes general or class instruction, as the instructor must adjust his criticism to the different results produced. The success or failure of art instruction depends upon the ability of the teacher to make this readjustment as he goes from student to student, and this furnishes a very definite standard by which to judge the efficiency of a teacher.

In the drawing classes an effort is made to impress on the student the necessity of accurately seeing the object he is drawing, as opposed to the common habit of uncertain looking, so that he may realize the basic simplicity of the object as a whole and use in his drawing what he himself sees and not what others may see. Early drawings are not necessarily works of art and should not be judged by standards beyond their purpose. The student must first be taught some means of putting his thought in material form, but this is quickly acquired if the right mental direction is secured in a logical sequence of steps from simple lines studying direction to the complicated expression of volume. We have found that beginning students are overwhelmed by the possibilities in the use of charcoal and that pencil is much better fitted to the use of freshman classes. Advanced students find that charcoal is the most sympathetic medium.

Experiments have been made in extending the work on one object over various lengths of time, from carefully shaded drawings requiring several periods to quick sketches completed in fifteen minutes. The use of line only and the silhouette method have been tried with varying degrees of success, and we now believe that the best results are obtained by working in masses of dark and light with reference to volume in a drawing which is finished in one period. The choice of this method seems to be justified by the striking individuality of the drawings made by students in the same class.

In Landscape Architecture the courses offered are a preparation for professional work. Under the usual methods of instruction, a student must undergo a long period of readjustment upon entering an office. We are making an effort to reduce this period by imitating office conditions in our laboratory, so that the student will not feel a total stranger when he goes from the University to a position. Instruction is given by the problem method. These problems involve actual sites of which topographical surveys are provided; and, whenever possible, sites which may be seen by the student are used. The constructed composition is the goal of the landscape architect, but it is obviously necessary that most of the instruction be through the form of designs on paper. The students are urged to observe completed compositions in order to develop their powers of visualizing paper projects, as the impossibility of constructing their projects demands an unusual reliance on imagination. The building of models to supplement the paper-design work has been tried, but the time required is a serious difficulty. The intercollegiate problems, known as landscape exchange problems, have proved valuable because of the stimulus of keen competition and the opportunity to see the winning designs from other institutions. Quick sketches in class from slides has proved a valuable method of impressing design examples on the minds of students. An experiment in construction is being tried this year for the first time. Through the courtesy of a firm of landscape architects, students are being sent to work for one week on a problem in the process of execution at Shelby, Ohio. The students will be under the supervision of an instructor who will see that the application of theory, studied for four years, to actual construction will be thoroughly explained. If this experiment should prove to be satisfactory, similar arrangements will be made each year and it is hoped that such facilities may be extended to both juniors and seniors.

New interests are given to design courses by theories of abstract design, later applied to materials producing striking results. The application of design theories is producing a demand for craft work, of which the ceramic art work is a notable beginning. Ceramic Art laboratory courses are largely working, producing courses. Introduction to processes and methods is given by lectures and demonstrations, but the student carries out as many methods as possible with his own hands. Most of the operations require practice and skill, are, in fact, little trades in themselves. We cannot give time enough to each process to enable the student to produce even moderately satisfactory results, unless we concentrate on the most important operations, leaving the rest to be covered by description and demonstration. The selection of these subjects for intensive practice and the planning of such class problems as will most thoroughly train the student to handle his materials intelligently and skilfully, are being developed by careful experiment.

Various other experiments have been tried in an effort to stimulate individual research and initiative. In the lecture courses, these have been largely

involved in the selection of material from the vast amount of creative art which reflects the development of civilization. Selection seems equally as important as presentation. The material is constantly changing as new light is thrown upon the varied phases of the subject by new excavations and new publications. Each period spent abroad by the instructor results in a revision and fresh presentation of material. To promote visual education, lantern slide identification and much work with illustrations of works of art have been tried. Emphasis has been placed upon the organization of lecture and reading material by the student, who writes his own textbook on the different periods covered and illustrates it with reproductions of his own selection.

For the large group of non-professional students who have little time to devote to the study of art, but whose interest as laymen is not to be neglected, special survey courses are presented. There are a number of visitors who take advantage of these lectures, which are also being used in connection with the "adult education" program of the Department.

In response to reported demands from students, the Department is giving instruction in the art of the theatre—an activity which belongs pre-eminently in Fine Arts and which will be extended as facilities permit. A close association between theory and practice has been secured through the use of a miniature theatre with a very complete lighting equipment, and through the Browning, May Fete, and Swan Club productions. The costumes and stage effects for these have been designed by advanced students taking these problems as part of their course, and there are at present eight students doing this sort of work. The projects are tried out on the miniature stage, and color graphs are used to create ensemble harmonies and produce sympathetic character development through costumes.

Lectures are given on theatre art and on stage lighting; and these, in connection with courses on the History of Fine Arts, give a proper background for research problems. Two students have taken advantage of this opportunity in a seminar course.

Further developments in theatre art will depend upon administrative support for the theory that this activity is desirable as a means of education and as an opportunity for experimental work.

MATHEMATICS

Professor H. W. Kuhn has reported very interestingly upon the methods employed in presenting the subject of mathematics, which is of such extreme importance to engineering students. This report is as follows:

"In view of the careful study now being given in this and other institutions of learning to methods of teaching and of organization of the work in the fundamental subjects, it may be of interest to present briefly the practice of our Department of Mathematics. Students in this department come largely from the Graduate School and from the College of Agriculture, Liberal Arts, Commerce and Administration, Education, and Engineering. In our work with these students, we aim to adapt our methods of teaching to their individual needs and to select the material which will be of greatest use to them. In respect to the first of these two aims attention is called to the following important items in our practice:

1. A committee, consisting of Professors Rasor and Weaver in charge of the teaching of the fundamental subjects.

2. The segregation of students into sections according to ability, and careful assignment of instructors to the various sections.

3. A conscientious attempt on the part of each instructor to know well, and to become a friend of, each of this students.

"In respect to the second of the above aims attention is called to our committee plan of organization. Under this plan we have a committee for each college and also one for the Graduate School. Each committee gives careful study to the needs of its students and selects and organizes the subject matter of the various courses in accordance with these needs."

MECHANICS

ASSIGNMENTS

With the exception of the two-hour laboratory periods of Mechanics 602, all the teaching is based on the recitation method. What little lecturing is done merely amplifies the text, and the student is not required to take notes. Since my own textbooks are used in all the undergraduate courses, it is easier to give the work in this way than it would be if we depended on books which might not fully cover the topics we wish to stress.

One member of the department is made responsible for the preparation of all assignments and mid-terms for one course. For instance, last quarter Professor Ott had this duty for 602, and other members for 601 and 603.

An assignment sheet, covering from two to four weeks, is neostyled and handed to each student. For a continuous course, one sheet overlaps the vacation, so that the student arrives the first day after the holiday with his lesson prepared.

With these sheets the student who misses a day knows the assignment for the next day. He can budget his time for several days ahead. The sections are kept together, so that a man with an irregular schedule may meet with different sections on different days, if absolutely necessary. A schedule prepared in advance, and subject to the criticism of all the instructors who teach the course, apportions the work better than an impromptu assignment at the end of the hour. The preparation of a schedule by one man for several instructors is a saving of labor.

In the schedule for each day, definite problems are assigned which each student is expected to solve. An attempt is made to give a load which the average student can carry in a reasonable time. Other problems taken from the text or prepared by an instructor are solved and discussed.

RECITATIONS

In the derivation of a formula or the solution of a typical problem, I frequently use a number of students in series. One man does one or two steps of the work, and explains it. Then another is called to the board to continue. Frequently a half dozen men are used in this way, and most of the class take part in the discussion. It is my policy not to write on the blackboard any solution or proof if I can get some member of the class to do it for me.

For the practice problems, the entire class may be sent to the blackboard together. If there are four problems, for instance, they count fours and the

work is assigned accordingly, so that men working the same problem are not adjacent. As soon as a few have finished, all are sent to their chairs and the problems are explained. Frequently a man who has done very little of his problem is assigned to explain the completed work of some other student. A similar method is used for the derivation of equations.

Written quizzes covering some of the required work of the lesson of the day or of some previous day are frequently given during the latter part of the period.

WRITTEN HOME WORK

Graphical problems, requiring the use of a table and drawing instruments, and problems involving rather extensive calculations are written out and handed in at the beginning of the hour. Other typical problems are also given in this way. This is not done daily. We find it not advisable to give a very difficult problem unless it has been previously discussed in class, on account of the temptation to receive assistance. We also find that many students will put too much time on such a problem, to the detriment of the remainder of the lesson. For instance, six problems are assigned for solution, of which the fifth is to be handed in. Some students will try to solve the fifth problem first; whereas, if they had begun with the first one and taken them in order they could have led up gradually to the fifth and solved all of them in less time than they wasted in failing to solve one.

Sometimes the assignment asks to bring in all home-study sheets. Occasionally these are called in and graded. This method should have further application.

MID-TERMS

Mid-terms are assigned in advance. If there were only one section, it would be better to spring them; but this is not practicable with a number of sections and published schedule. The advantages of unexpected examinations are secured by means of the quizzes which are not scheduled. We give about four mid-terms each quarter. Except in 602, which has laboratory work, the mid-terms are usually weighted at 40 per cent.

LABORATORY

A two-hour laboratory period forms a part of Mechanics 602. The sections are limited to sixteen students. (We were obliged to exceed that limit in several sections last Winter Quarter.) These are divided into four squads of four men each. All do the same experiment at the same time. A neostyled sheet of directions is given out at the previous assignment, and further instructions by brief lecture at the middle of the period. An effort is made to have the members of a squad change positions during a period so that each man will get practice each day on the various operations of handling the machine, reading the gages and recording. It would be better if we could limit the squads to three men instead of four.

LABORATORY NOTES

One of the difficulties of a laboratory course is to get the experiments computed and written up without taking too much of the student's time. The experiment must be computed to be understood, and the work must be tabulated and curves drawn to express the results. To reduce the time we ask

that all unnecessary preambles be omitted, that only special apparatus and set-ups be described, with simple freehand sketches in ink which show the principle without unnecessary details. The calculations must be made, the tables prepared, and the curves drawn in good shape. The preparation of the notes still requires an average of more than two hours instead of the one hour scheduled. The additional time must come from the eight hours of preparation for the recitations of Mechanics 602. We try to avoid infringing on the time due to other departments. I am sure that one of the difficulties of teaching is caused by the fact that the students spend too much time on laboratory notes and neglect the preparation for the recitation period.

GRADING

In order to get proper preparation for classroom work we find it necessary to grade on recitations. While interest in the subject is the best incentive to study and is effective with the better students, the poorer student—with laboratory notes, written problems, or drawings which must be done by a definite time and which will have a definite effect on his grade—will do these and neglect his class preparation, in the hope that he can make up the deficiency before the next mid-term. As a result, he attends class without preparation and gets little out of the recitations. For that reason we are giving more attention to recitation grades and short written quizzes. When the whole class is sent to the board and allowed to work on assigned problems which they are supposed to have previously solved, the instructor can pass a fair judgment on the quality of this preparation while they are working. Any question as to the grade of a man who did not finish may be settled by having him recite on the solution.

With a suitable textbook, the main item in the mastery of a mathematical-physical subject, such as mechanics, by a student with two years of university training, is the home study which he does. The teacher should see that he has a suitably large task for each day, should show him the relative importance of the various factors, and should help him over difficulties after he has worked at them long enough to receive the help. After he leaves college he learns principally from books and technical papers. He gets most of his ideas from the printed page, not from lectures. He must, therefore, acquire a capacity for home study. If I teach Mechanics so well that any student, however brilliant, can master it from what he gets in the classroom, I am teaching it poorly or requiring too little. In either case I am doing the student an injury.

THE EXCEPTIONAL STUDENT

The methods so far mentioned may be said to apply principally to the average or poorer student. What about the exceptional man? It does not hurt the exceptional man to master the fundamentals and to have considerable practice with ordinary problems. The lesson usually includes problems in addition to the minimum absolutely required. Also special problems to illustrate the subject are devised by the instructor to suit the occasion and the class. These are generally attacked by the abler men who volunteer to solve them. In my years of teaching I have had a number of exceptional men in my regular sections. None of them have ever complained to me that they were hampered by their slower associates. The Department has no intention of sectioning according to ability. Last year Professors Ott and Folk divided some labora-

tory sections in squads according to their grades in 601. They found that the men in the second squad were generally better in the laboratory than those of the first squad.

PRINCIPLES OF EDUCATION

B. H. BODE

CLASSROOM TEACHING

It is to be expected that a department like Principles of Education should be more than usually conscious of its own teaching methods, for much the same reason that a grammarian is exceptionally sensitive to the requirements of correct speech. It can truthfully be said, I think, that our attitude toward our own teaching practices within the Department is an attitude of humility. The implied obligation that a teacher of teaching should exemplify his precepts in his practice is a source of embarrassment and concern. Perhaps the unaided eye can detect no particular difference between the teaching of the Department which is especially concerned with teaching problems and the teaching of other departments. If this is the case, then certain obvious and more or less unpleasant questions are in order.

It is not my purpose to present a defense of our shortcomings in this respect. The ideal of a department with its teaching procedure so organized as to make a discussion of methods largely unnecessary is still a long way from realization. In this department, as in so many others, we are struggling with the problems of mass education. I am happy to say that it has been possible to do some experimenting this past year, chiefly through Dr. Hullfish, whose report on this subject was sent to you some time ago. The aim in this experimenting has been to devise a procedure that will develop in the student the attitude of initiative or self-reliance and the spirit of research. The details of the undertaking are set forth in Dr. Hullfish's report and need not be repeated here. While all such experiments involve an element of trial and error, there is considerable ground for the belief that the new method is a definite improvement on the old. During the present quarter, I learned from sources outside of the class that the initial problem with which the course began provoked a very considerable amount of discussion among the students in what is known in student slang as "bull sessions." This is precisely the sort of result that I had hoped for. There is perhaps no better evidence of effectiveness than that. We are discovering certain limitations of the scheme which should be remedied. The conference room is too much of a study room, because it is impossible to have informal and more or less impromptu discussions with sufficient freedom in a room where a considerable number of students have come for purposes of individual study. We had hoped to use one of the departmental offices as a place where students who felt disposed to talk—with an instructor or with other students—could come and indulge themselves. This free give and take is an essential part of real education. The limitations of space, however, have made this impossible so far. Eventually we shall have to work out a scheme with the proper combination of individual study and group discussions in order to carry the plan to proper completion.

I may take this occasion to present another teaching problem that has been on my mind for some time. As you know, we have a considerable number of graduate students in some of the Departmental courses. The classes that

I have in mind are too large to permit effective work under present conditions. In a class that has from sixty to a hundred graduate students, or even more, there is little opportunity to cultivate a real spirit of scholarship. The course inevitably becomes a more or less conventional undergraduate course. If a student is to get training in close thinking, in the analysis of problems, in the criticism of argument and evidence—in brief, in the sort of thing that constitutes scholarship—it is necessary to give him some individual attention. Writing term papers does not necessarily help a great deal. I have tried in the past to have each graduate student do one piece of solid work in connection with each course. My plan was to have this work consist of a written report, which was to be done under supervision, with such corrections, revisions, and reorganizations of material as a student makes who is engaged in writing a thesis. It is no exaggeration to say that a great many, probably a large majority, of our graduate students have no respectable sense of workmanship, no real sense of scholarship. The plan did not work out, owing to lack of competent personnel. The assistants who were supposed to do this work were not equal to it.

If our undergraduate work were done properly, all this would be taken care of on that level. I think, however, that the problem should be attacked on the graduate level, independently of what we may try to do for undergraduates. We may as well admit that most of our graduate students are not graduate students except in name. The attitude and spirit and type of work that is supposed to be peculiarly the work of graduate status is largely absent. In my judgment we should try the experiment of what might be called an informal preceptorial system. I suggest that we try this on the graduate level, partly because we are rather more flagrantly or obviously at fault here, and partly because it seems feasible to make adequate provision of this sort for a relatively small group of students. It would then be possible to extend the system downwards to various undergraduate levels, as circumstances might warrant. Eventually, in my opinion, the solution of the problem of undergraduate teaching must be found in treating undergraduates as graduate students are supposed to be treated now. I do not have much faith in such devices as determining the maximum size of classes or the improvement of grading schemes and classroom techniques and the like. They do not touch the heart of the problem. One reason why students display no interest in scholarship is that they never come in contact with it. What we teach them is usually the *results* of scholarship. To secure an appreciation of scholarship, it is necessary, for most students at any rate, to live in the free masonry of scholarship through constant and intimate contact with scholars.

This suggests one further matter, for which I crave your indulgence. College education is steadily increasing in popularity, but there is clearly no proportionate growth in the zeal for technical scholarship. Some observers intimate that the interest in scholarship is declining among college students. The reasons why students come to college are various, and need not be enumerated here. There is one reason, however, which receives less emphasis than its importance warrants. If I may state my views dogmatically, in the interests of brevity, I should say that the rapidity and the extent of the changes resulting from the applications of science to life are causing people to depend more and more on education for guidance. Vocations are changing rapidly, and so are our institutions and standards. Our whole outlook on life is becoming unsettled. In a word, what the present generation needs and

fundamentally wants (though it is not very articulate in formulating this want) is a program for the guidance of conduct, or what we sometimes call a philosophy of life.

In the past the scheme of liberal education centered largely on this idea. The educated man was a man who had definite ideas as to what the Greeks called the "good life"; he had definite standards of values and conduct. This idea is now largely lost. We talk vaguely of breadth and culture and character formation, but a spirit of dilettantism is replacing the former definiteness. Generally speaking, we are definite at only one point, namely, technical scholarship. But technical scholarship pertains to efficiency in research and so does not meet the needs of the situation. It does not in itself constitute liberal education. It is not what the average student primarily wants and needs. No matter how effective our teaching is made on this level, the problem remains. Moreover, it is unlikely that we can go very far in improving effectiveness of teaching, unless we change our purpose, our aim, if it is true that technical scholarship is not a fundamental need or demand on the part of our college population. In other words, the problem of college teaching is bound up with the problem of the curriculum.

There is no antecedent reason why our college program, particularly in the first two years, should not be so organized as to stimulate, and in a sense compel, the student to formulate for himself a program of living. If this were done, we should recover the ancient ideal of liberal education, in terms of present conditions. We should tap sources of interest in our student population which at present remain largely untouched. We should have a basis for fostering the spirit of scholarship—rigorous thinking in connection with the collecting and organizing of data and the testing of conclusions. Out of this would grow, in many cases, an interest in technical scholarship, in the pursuit of knowledge for its own sake.

My apology for this extended disquisition must be that the Department of Principles has a special interest in this problem of college teaching. In the first place, it is evident that an intelligent comprehension of what constitutes liberal education is essential in a program for teacher training. The problem of liberal education is fundamentally the same, whether we deal with it on the college or on the high-school level. Secondly, the Department is concerned to organize its work in such a way that our prospective teachers will go out with an educational program or point of view that will be an integral part of their whole philosophy of life. Thirdly, the time is at hand when our colleges of education will be called upon to assist in the training of college teachers in somewhat the same way as they now train teachers for the public schools. In this direction lies a great opportunity for usefulness.

REGISTRAR'S REPORT

SUMMARY—YEAR 1928-1929

GRAND TOTAL FOR YEAR

	Men	Women	Total
Current Total	8,042	3,462	11,504
Summer Quarter	1,847	1,614	3,461
Lake Laboratory	24	19	43
Total	9,913	5,095	15,008
Duplicates in Summer Quarter	935	527	1,462
Total	8,978	4,568	13,546
Winter Courses in Agriculture (Poultry and Dairying)	106	5	111
Grand Net Total	9,084	4,573	13,657
Commerce Extension Courses	580	166	746
Grand Year Total	9,664	4,739	14,403

College	AUTUMN, WINTER, SPRING QUARTERS			SUMMER QUARTER DUPLICATES		
	Men	Women	Total	Men	Women	Total
Agriculture	505	358	863	32	56	88
Applied Optics	31	1	32	1	.....	1
Arts	1,792	686	2,478	147	81	228
Arts-Education	27	82	109	2	15	17
Commerce and Administration	1,668	408	2,076	100	29	129
Dentistry	245	1	246	2	.....	2
Education	505	1,478	1,983	86	210	296
Engineering	1,618	9	1,627	143	.....	143
Law	282	14	296	3	.....	3
Medicine	307	16	323	3	2	5
Nursing	.....	41	41	.....	.....	.....
Pharmacy	181	15	196	19	.....	19
Veterinary Medicine	121	.....	121	10	.....	10
Graduate School	760	353	1,113	299	99	398
Current Total	8,042	3,462	11,504	847	492	1,339
Number that changed Colleges	.....	.....	.....	78	30	108
				925	522	1,447
Lake Laboratory	.....	.....	.....	10	5	15
Total	8,042	3,462	11,504	935	527	1,462

SUMMER QUARTER 1928

SHOWING ACTUAL NUMBER IN SCHOOL EACH TERM

	First Term			Second Term Only	Second Term			Entire Quarter	
	Gross Enrollment	Withdrawals	Net Enrollment		Gross Enrollment	Withdrawals	Net Enrollment	Gross Enrollment	Net Enrollment
Agriculture	134	4	130	18	97	1	96	152	147
Applied Optics	1	...	1	...	1	...	1	1	1
Arts	399	10	389	31	362	...	362	430	420
Arts-Education	34	...	34	2	26	1	25	36	35
Commerce and Adm.	209	9	200	12	182	1	181	221	211
Dentistry	2	...	2	...	1	...	1	2	2
Education	1,006	15	991	120	668	5	663	1,126	1,106
Engineering	154	1	153	9	98	...	98	163	162
Law	...	...	...	...	...	...	...	...	...
Medicine	12	...	12	...	12	...	12	12	12
Pharmacy	22	...	22	1	22	...	22	23	23
Vet. Medicine	10	2	8	...	6	...	6	10	8
Graduate School	1,185	18	1,167	107	917	1	916	1,292	1,273
	3,168	59	3,109	300	2,392	9	2,383	3,468	3,400
Lake Laboratory	43	...	43	...	...	...	...	43	43
Total	3,211	59	3,152	300	2,392	9	2,383	3,511	3,443
Less Duplicates								7	7
								3,504	3,436

COMPARISON OF ENROLLMENT

AUTUMN QUARTER 1927-28

COLLEGES	ENROLLMENT NOVEMBER 1927			ENROLLMENT NOVEMBER 1928		
	Men	Women	Total	Men	Women	Total
Agriculture	435	329	764	455	338	793
Applied Optics	33	1	34	29	1	30
Liberal Arts	1,679	692	2,371	1,755	674	2,429
(Double Registration)*				(70	5	75)
Arts-Education	17	88	105	19	88	107
Commerce and Administration	1,440	347	1,787	1,469	358	1,827
(Double Registration)*				(4	...	4)
Dentistry	281	...	281	244	1	245
Education	355	1,327	1,682	439	1,277	1,716
Engineering	1,555	7	1,562	1,541	7	1,548
Law	293	14	307	284	13	297
Medicine	309	20	329	314	16	330
Nursing	...	...	...	...	31	31
Pharmacy	173	20	193	173	15	188
Veterinary Medicine	94	...	94	110	...	110
(Double Registration)*				(3	...	3)
	6,664	2,844	9,508	7,108	3,075	10,183
Graduate School	510	240	750	574	270	844
(Double Registration)*				1	...	1
	7,174	3,084	10,258	7,406	3,089	10,495
Less Duplicates	66	9	75	78	5	83
Total (current)	7,108	3,075	10,183	7,328	3,084	10,412

* DUPLICATES IN AUTUMN QUARTER 1928

College	Men	Women	Total
Arts			
Arts-Engr.	1	..	1
Arts-Com.	..	2	2
Arts-Law	10	1	11
Arts-Med.	8	..	8
Science-Med.	51	2	53
	70	5	75
Commerce and Adm.			
Arts-Com.	1	..	1
Com.-Law	3	..	3
	4	..	4
Veterinary Medicine			
Agr.-Vet. Med.	3	..	3
Graduate School			
Grad.-Law	1	..	1
	78	5	83

COMPARISON OF ENROLLMENT

WINTER QUARTER 1928-29

COLLEGES	JANUARY 1928 ENROLLMENT			JANUARY 1929 ENROLLMENT		
	Men	Women	Total	Men	Women	Total
Agriculture	437	308	745	449	308	757
Applied Optics	33	1	34	26	1	27
Liberal Arts	1,569	639	2,208	1,630	616	2,246
(Double Registration)*				(60	7	67)
Arts-Education	16	82	98	23	76	99
Commerce and Administration	1,343	325	1,668	1,356	316	1,672
(Double Registration)*				(3	...	3)
Dentistry	270	1	271	238	1	239
Education	335	1,179	1,514	388	1,206	1,594
Engineering	1,492	7	1,499	1,466	6	1,472
Law	267	19	286	264	14	278
Medicine	300	18	318	296	14	310
Nursing	...	...	...	...	28	28
Pharmacy	161	18	179	165	15	180
Veterinary Medicine	98	...	98	116	...	116
(Double Registration)*				(3	...	3)
	6,321	2,597	8,918	6,417	2,601	9,018
Graduate School	521	213	734	559	219	778
(Double Registration)*				(1	...	1)
	6,842	2,810	9,652	6,976	2,820	9,796
Less Duplicates	79	7	86	67	7	74
Current Total	6,763	2,803	9,566	6,909	2,813	9,722
Winter Courses in Agriculture	74	3	77	75	2	77
Total	6,837	2,806	9,643	6,984	2,815	9,799

* DUPLICATES IN WINTER QUARTER 1928-29

College	Men	Women	Total
Arts			
Arts-Grad.	1	..	1
Arts-Engr.	2	..	2
Arts-Agr.	..	1	1
Arts-Com.	..	3	3
Arts-Law	12	1	13
Arts-Med.	3	..	3
Science-Med.	42	2	44
Commerce and Adm.			
Com.-Law.	3	..	3
Veterinary Medicine			
Agr.-Vet. Med.	3	..	3
Graduate School			
Grad.-Law	1	..	1
	67	7	74

COMPARISON OF ENROLLMENT

SPRING QUARTER 1928-29

COLLEGES	ENROLLMENT SPRING QUARTER 1928			ENROLLMENT SPRING QUARTER 1929		
	Men	Women	Total	Men	Women	Total
Agriculture	343	306	649	345	297	642
Applied Optics	32	1	33	25	...	25
Liberal Arts	1,423	587	2,010	1,446	569	2,015
(Double Registration)*				(55	6	61)
Arts-Education	20	87	107	23	75	98
Commerce and Administration	1,216	292	1,508	1,233	323	1,556
(Double Registration)*				(3	...	3)
Dentistry	266	...	266	232	1	233
Education	318	1,133	1,451	371	1,189	1,560
Engineering	1,353	5	1,358	1,324	7	1,331
Law	264	13	277	249	12	261
Medicine	285	20	305	272	14	286
Nursing	...	...	...	...	34	34
Pharmacy	145	17	162	143	15	158
Veterinary Medicine	92	...	92	111	...	111
(Double Registration)*				(2	...	2)
	5,757	2,461	8,218	5,774	2,536	8,310
Graduate School	552	213	765	587	236	823
(Double Registration)*				(1	...	1)
	6,309	2,674	8,983	6,361	2,772	9,133
Less Duplicates	76	9	85	61	6	67
Grand Total	6,233	2,665	8,898	6,300	2,766	9,066

*DUPLICATES SPRING QUARTER 1929

College	Men	Women	Total
Arts			
Arts-Grad.	1	..	1
Arts-Engr.	2	..	2
Arts-Agr.	..	1	1
Arts-Com.	..	2	2
Arts-Law	12	1	13
Arts-Med.	3	..	3
Science-Med.	37	2	39
Commerce and Adm.			
Com.-Law	3	..	3
Veterinary Medicine			
Agr.-Vet. Med.	2	..	2
Graduate School			
Grad.-Law	1	..	1
	61	6	67

SUMMARY BY CLASSES AND COLLEGES—YEAR 1928-29

Colleges		Freshman			Sophomore			Junior			Senior			Special			Irregular			Total		
		Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture	Autumn	155	105	260	100	70	170	121	81	202	70	75	145	7	2	9	2	5	7	455	338	793
	Winter	136	81	217	111	72	183	116	75	191	79	76	155	5	1	6	2	3	5	449	308	757
	Spring	86	76	162	52	56	108	125	84	209	73	78	151	7	1	8	2	2	4	345	297	642
	Year	164	106	270	120	76	196	130	85	215	77	81	158	11	2	13	3	8	11	505	358	863*
Applied Optics	Autumn	8	....	8	8	1	9	5	....	5	8	....	8	....	....	....	....	....	....	29	1	30
	Winter	5	....	5	7	1	8	6	....	6	8	....	8	....	....	....	....	....	....	26	1	27
	Spring	5	....	5	6	....	6	6	....	6	8	....	8	....	....	....	....	....	....	25	....	25
	Year	8	....	8	9	1	10	6	....	6	8	....	8	....	....	....	....	....	....	31	1	32*
Arts	Autumn	727	256	983	452	170	622	364	136	500	191	98	289	9	8	17	12	6	18	1,755	674	2,429
	Winter	591	215	806	432	133	565	367	132	499	221	121	342	10	10	20	9	5	14	1,630	616	2,246
	Spring	491	180	671	399	126	523	315	131	446	221	116	337	8	9	17	12	7	19	1,446	569	2,015
	Year	741	248	989	482	162	644	372	149	521	167	106	273	15	14	29	15	7	22	1,792	686	2,478*
Arts-Education	Autumn	3	13	16	2	22	24	6	27	33	8	26	34	....	....	....	....	....	....	19	88	107
	Winter	4	9	13	5	15	20	4	23	27	10	29	39	....	....	....	....	....	....	23	76	99
	Spring	2	10	12	4	7	11	6	24	30	11	34	45	....	....	....	....	....	....	23	75	98
	Year	5	10	15	6	16	22	5	27	32	11	29	40	....	....	....	....	....	....	27	82	109*
Commerce	Autumn	582	142	724	356	85	441	349	82	431	164	44	208	17	4	21	1	1	2	1,469	358	1,827
	Winter	494	114	608	346	79	425	326	72	398	180	47	227	6	3	9	4	1	5	1,356	316	1,672
	Spring	427	109	536	320	97	417	298	68	366	178	46	224	7	1	8	3	2	5	1,233	323	1,556
	Year	651	154	805	431	107	538	365	81	446	201	56	257	15	6	21	5	4	9	1,668	408	2,076*
Education	Autumn	158	411	569	71	248	319	117	330	447	60	182	242	10	35	45	23	71	94	439	1,277	1,716
	Winter	127	339	466	69	263	332	94	305	399	74	235	309	5	16	21	19	48	67	388	1,206	1,594
	Spring	106	335	441	75	255	330	92	296	388	82	232	314	4	25	29	12	46	58	371	1,189	1,560
	Year	161	429	590	100	304	404	132	344	476	71	230	301	15	57	72	26	114	140	505	1,478	1,983*
Engineering	Autumn	407	3	410	497	2	499	354	1	355	270	1	271	10	....	10	3	....	3	1,541	7	1,548
	Winter	404	3	407	458	1	459	342	1	343	243	1	244	10	....	10	9	....	9	1,466	6	1,472
	Spring	378	4	382	404	1	405	308	1	309	217	1	218	9	....	9	8	....	8	1,324	7	1,331
	Year	404	5	409	548	2	550	372	1	373	277	1	278	11	....	11	6	....	6	1,618	9	1,627*

Pharmacy	Autumn	52	6	58	58	3	61	33	5	38	27	1	28				3		3	173	15	188
	Winter	50	5	55	46	2	48	35	7	42	28	1	29				6		6	165	15	180
	Spring	43	5	48	32	2	34	39	5	44	24	3	27				5		5	143	15	158
	Year	59	4	63	52	3	55	35	7	42	28	1	29				7		7	181	15	196*
Vet. Med.	Autumn	35		35	38		38	22		22	15		15							110		110
	Winter	42		42	37		37	22		22	15		15							116		116
	Spring	36		36	36		36	24		24	15		15							111		111
	Year	47		47	36		36	23		23	15		15							121		121*
Professional Colleges																						
1. Dentistry	Autumn	42	1	43	84		84	62		62	56		56							244	1	245
	Winter	36	1	37	83		83	62		62	57		57							238	1	239
	Spring	34	1	35	80		80	61		61	57		57							232	1	233
	Year	40	1	41	86		86	62		62	57		57							245	1	246*
2. Law	Autumn	118	8	126	83	2	85	81	3	84				2		2				284	13	297
	Winter	108	9	117	76	2	78	78	3	81				2		2				264	14	278
	Spring	102	7	109	74	2	76	71	3	74				2		2				249	12	261
	Year	114	9	123	85	2	87	81	3	84				2		2				282	14	296*
3. Medicine	Autumn	100	2	102	85	6	91	55	6	61	74	2	76							314	16	330
	Winter	84		84	83	5	88	55	6	61	74	3	77							296	14	310
	Spring	66		66	80	6	86	54	5	59	72	3	75							272	14	286
	Year	92	1	93	87	6	93	54	6	60	74	3	77							307	16	323*
School of Nursing	Autumn		31	31																	31	31
	Winter		28	28																	28	28
	Spring		34	34																	34	34
	Year		41	41																	41	41*
TOTAL	Autumn	2,387	978	3,365	1,834	609	2,443	1,569	671	2,240	943	429	1,372	55	49	104	44	83	127	6,832	2,819	9,651
	Winter	2,081	804	2,885	1,753	573	2,326	1,506	624	2,130	989	513	1,502	38	30	68	49	57	106	6,417	2,601	9,018
	Spring	1,776	761	2,537	1,562	552	2,114	1,399	617	2,016	958	513	1,471	37	36	73	42	57	99	5,774	2,536	8,310
	Year	2,486	1,008	3,494	2,042	679	2,721	1,637	703	2,340	986	407	1,493	69	79	148	62	133	195	7,282	3,109	10,391*
Graduate School	Autumn																			574	270	844
	Winter																			559	219	778
	Spring																			587	236	823
	Year																			760	353	1,113*
GRAND TOTAL	Autumn																			7,328	3,084	10,412**
	Winter																			6,909	2,813	9,722**
	Spring																			6,300	2,766	9,066**
	Year																			8,042	3,462	11,504*

* Not Including Transfers.

** Not Including Double Registration (Arts-Med., Arts-Law, etc.).

WITHDRAWALS—YEAR 1928-29

Colleges		Freshman			Sophomore			Junior			Senior			Special			Irregular			Total		
		Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture	Autumn	6	2	8	1	....	1	....	5	5	....	....	....	4	....	4	....	1	1	11	8	19
	Winter	4	3	7	2	2	4	4	4	8	1	....	1	....	....	....	....	....	....	11	9	20
	Spring	4	....	4	....	....	....	1	4	5	....	....	....	....	....	....	1	1	2	6	5	11
Applied Opt.	Autumn	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
	Winter	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Spring	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Arts	Autumn	25	8	33	15	5	20	8	3	11	1	....	1	2	....	2	....	1	1	51	17	68
	Winter	35	10	45	23	2	25	10	2	12	2	1	3	....	1	1	....	1	1	70	17	87
	Spring	15	7	22	10	6	16	9	3	12	....	1	1	....	....	....	....	1	1	34	18	52
Arts.-Edu.	Autumn	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Winter	....	....	....	....	1	1	1	....	1	....	....	....	....	....	....	....	....	....	1	1	2
	Spring	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Commerce	Autumn	22	6	28	13	4	17	6	2	8	3	1	4	3	1	4	....	....	....	47	14	61
	Winter	17	2	19	15	4	19	9	4	13	4	....	4	....	....	....	....	....	....	45	10	55
	Spring	13	7	20	7	4	11	8	2	10	2	1	3	....	....	....	....	....	....	30	14	44
Dentistry	Autumn	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
	Winter	1	....	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
	Spring	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Education	Autumn	10	9	19	3	3	6	2	3	5	1	2	3	1	2	3	2	7	9	19	26	45
	Winter	7	13	20	2	8	10	5	5	10	2	4	6	....	....	....	....	4	4	16	34	50
	Spring	3	5	8	1	3	4	1	3	4	3	1	4	....	2	2	....	1	1	8	15	23

Engineering	*Autumn*	13	....	13	17	....	17	8	....	8	....	....	....	1	....	1	....	....	....	39	....	39
	Winter	10	....	10	22	....	22	12	....	12	3	....	3	1	....	1	....	....	....	48	....	48
	Spring	7	....	7	8	....	8	6	....	6	2	....	2	....	....	....	....	....	....	23	....	23
Law	Autumn	3	....	3	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	4	....	4
	Winter	4	1	5	4	....	4	....	....	....	....	....	....	....	....	....	....	....	....	8	1	9
	Spring	2	....	2	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	3	....	3
Medicine	Autumn	2	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
	Winter	7	....	7	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	8	....	8
	Spring	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Nursing	Autumn	....	2	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	2	2
	Winter	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	1	1
	Spring	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	....	....
Pharmacy	Autumn	2	....	2	....	....	....	....	1	1	....	....	....	....	....	....	1	....	1	3	1	4
	Winter	2	....	2	2	....	2	1	....	1	1	....	1	....	....	....	....	....	....	6	....	6
	Spring	....	....	.....	1	....	1	3	....	3	....	....	....	....	....	....	....	....	....	4	....	4
Vet. Med.	Autumn	....	....	.....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	1	....	1
	Winter	2	....	2	2	....	2	....	....	....	....	....	....	....	....	....	....	....	....	4	....	4
	Spring	1	....	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
Total	Autumn	85	27	112	50	12	62	25	14	39	5	3	8	11	3	14	3	9	12	179	68	247
	Winter	89	30	119	74	17	91	42	15	57	13	5	18	1	1	2	....	5	5	219	73	292
	Spring	46	19	65	31	13	44	28	12	40	7	3	10	....	2	2	1	3	4	113	52	165
Graduate School	Autumn	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	15	23
	Winter	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13	6	19
	Spring	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	6	11
Total	Autumn	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	187	83	270
	Winter	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	232	79	311
	Spring	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	118	58	176

NET ENROLLMENT—YEAR 1928-29

		Freshman			Sophomore			Junior			Senior			Special			Irregular			Total		
		Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture	Autumn	149	103	252	99	70	169	121	76	197	70	75	145	3	2	5	2	4	6	444	330	774
	Winter	132	78	210	109	70	179	112	71	183	78	76	154	5	1	6	2	3	5	438	299	737
	Spring	82	76	158	52	56	108	124	80	204	73	78	151	7	1	8	1	1	2	339	292	631
Applied Optics	Autumn	7	....	7	8	1	9	5	....	5	8	....	8	....	....	....	....	....	....	28	1	29
	Winter	5	....	5	7	1	8	6	....	6	8	....	8	....	....	....	....	....	....	26	1	27
	Spring	5	....	5	5	....	5	6	....	6	8	....	8	....	....	....	....	....	....	24	....	24
Arts	Autumn	702	248	950	437	165	602	356	133	489	190	98	288	7	8	15	12	5	17	1,704	657	2,361
	Winter	556	205	761	409	131	540	357	130	487	219	120	339	10	9	19	9	4	13	1,560	599	2,159
	Spring	476	173	649	389	120	509	306	128	434	221	115	336	8	9	17	12	6	18	1,412	551	1,963
Arts-Edu.	Autumn	3	13	16	2	22	24	6	27	33	8	26	34	....	....	....	....	....	....	19	88	107
	Winter	4	9	13	5	14	19	3	23	26	10	29	39	....	....	....	....	....	....	22	75	97
	Spring	2	10	12	4	7	11	6	24	30	11	34	45	....	....	....	....	....	....	23	75	98
Commerce	Autumn	560	136	696	343	81	424	343	80	423	161	43	204	14	3	17	1	1	2	1,422	344	1,766
	Winter	477	112	589	331	75	406	317	68	385	176	47	223	6	3	9	4	1	5	1,311	306	1,617
	Spring	414	102	516	313	93	406	290	66	356	176	45	221	7	1	8	3	2	5	1,203	309	1,512
Dentistry	Autumn	41	1	42	84	....	84	62	....	62	56	....	56	....	....	....	....	....	....	243	1	244
	Winter	35	1	36	82	....	82	62	....	62	57	....	57	....	....	....	....	....	....	236	1	237
	Spring	34	1	35	79	....	79	61	....	61	57	....	57	....	....	....	....	....	....	231	1	232
Education	Autumn	148	402	550	68	245	313	115	327	442	59	180	239	9	33	42	21	64	85	420	1,251	1,671
	Winter	120	326	446	67	255	322	89	300	389	72	231	303	5	16	21	19	44	63	372	1,172	1,544
	Spring	103	330	443	74	252	326	91	293	384	79	231	310	4	23	27	12	45	57	363	1,174	1,537
Engineering	Autumn	394	3	397	480	2	482	346	1	347	270	1	271	9	....	9	3	....	3	1,502	7	1,509
	Winter	394	3	397	436	1	437	330	1	331	240	1	241	9	....	9	9	....	9	1,418	6	1,424
	Spring	371	4	375	396	1	397	302	1	303	215	1	216	9	....	9	8	....	8	1,301	7	1,308

Law	Autumn..	115	8	123	82	2	84	81	3	84	. . .	. . .	. . .	2	. . .	2	. . .	. . .	. . .	280	13	293
	Winter...	104	8	112	72	2	74	78	3	81	. . .	. . .	. . .	2	. . .	2	. . .	. . .	. . .	256	13	269
	Spring...	100	7	107	73	2	75	71	3	74	. . .	. . .	. . .	2	. . .	2	. . .	. . .	. . .	246	12	258
Medicine	Autumn..	98	2	100	85	6	91	55	6	61	74	2	76	. . .	. . .	. . .	. . .	. . .	. . .	312	16	328
	Winter...	77	. . .	77	82	5	87	55	6	61	74	3	77	. . .	. . .	. . .	. . .	. . .	. . .	288	14	302
	Spring...	65	. . .	65	80	6	86	54	5	59	72	3	75	. . .	. . .	. . .	. . .	. . .	. . .	271	14	285
Nursing	Autumn..	. . .	29	29	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	29	29
	Winter...	. . .	27	27	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	27	27
	Spring...	. . .	34	34	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	34	34
Pharmacy	Autumn..	50	6	56	58	3	61	33	4	37	27	1	28	. . .	. . .	. . .	2	. . .	2	170	14	184
	Winter...	48	5	53	44	2	46	34	7	41	27	1	28	. . .	. . .	. . .	6	. . .	6	159	15	174
	Spring...	43	5	48	31	2	33	36	5	41	24	3	27	. . .	. . .	. . .	5	. . .	5	139	15	154
Vet. Medicine	Autumn..	35	. . .	35	38	. . .	38	21	. . .	21	15	. . .	15	. . .	. . .	. . .	. . .	. . .	. . .	109	. . .	109
	Winter...	40	. . .	40	35	. . .	35	22	. . .	22	15	. . .	15	. . .	. . .	. . .	. . .	. . .	. . .	112	. . .	112
	Spring...	35	. . .	35	35	. . .	35	24	. . .	24	15	. . .	15	. . .	. . .	. . .	. . .	. . .	. . .	109	. . .	109
Total	Autumn..	2,302	951	3,253	1,784	597	2,381	1,544	657	2,201	938	426	1,364	44	46	90	41	74	115	6,653	2,751	9,404
	Winter...	1,992	774	2,766	1,679	556	2,235	1,465	609	2,074	976	508	1,484	37	29	66	49	52	101	6,198	2,528	8,726
	Spring...	1,730	742	2,472	1,531	539	2,070	1,371	605	1,976	951	510	1,461	37	34	71	41	54	95	5,661	2,484	8,145
Graduate School	Autumn..	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	566	255	821
	Winter...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	546	213	759
	Spring...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	582	230	812
Total	Autumn..	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	7,219	3,006	10,225
	Winter...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	6,744	2,741	9,485
	Spring...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	6,243	2,714	8,957
Less Duplicates	Autumn..	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	78	5	83
	Winter...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	67	7	74
	Spring...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	61	6	67
Net Total	Autumn..	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	7,141	3,001	10,142
	Winter...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	6,677	2,734	9,411
	Spring...	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	6,182	2,708	8,890

NUMBER AND RANK OF NEW STUDENTS—YEAR 1928-29

		Freshman			Sophomore			Junior			Senior			Special			Irregular			Total		
		Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Women	Men	Women	Total	Men	Women	Total
Agriculture	Autumn	124	77	201	4	14	18	8	15	23	. . .	7	7	7	1	8	1	2	3	144	166	260
	Winter	5	3	8	1	2	3	1	1	2	. . .	. . .	. . .	3	. . .	3	. . .	. . .	. . .	10	6	16
	Spring	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	. . .	1	. . .	. . .	. . .	1	. . .	1
Applied Optics	Autumn	6	. . .	6	. . .	1	1	2	. . .	2	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	8	1	9
	Winter	. . .	. . .	. . .	1	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	. . .	1
	Spring	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Arts	Autumn	593	214	807	74	39	113	46	37	83	13	1	14	3	5	8	5	1	6	734	297	1,031
	Winter	34	10	44	6	4	10	4	2	6	. . .	. . .	. . .	3	4	7	2	1	3	49	21	70
	Spring	31	8	39	4	2	6	4	1	5	. . .	. . .	. . .	1	1	2	1	. . .	1	41	12	53
Arts-Education	Autumn	2	13	15	1	. . .	1	. . .	3	3	. . .	1	1	. . .	. . .	. . .	. . .	. . .	. . .	3	17	20
	Winter	1	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	. . .	1
	Spring	. . .	. . .	. . .	. . .	1	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	1
Commerce	Autumn	472	119	591	33	13	46	34	7	41	1	. . .	1	9	2	11	1	1	2	550	142	692
	Winter	27	6	33	5	. . .	5	3	. . .	3	1	. . .	1	. . .	1	1	. . .	. . .	. . .	36	7	43
	Spring	11	4	15	. . .	1	1	2	. . .	2	. . .	. . .	. . .	. . .	1	1	. . .	. . .	. . .	13	6	19
Dentistry	Autumn	20	. . .	20	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	20	. . .	20
	Winter	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	Spring	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Education	Autumn	123	318	441	10	48	58	11	42	53	1	7	8	4	6	10	3	2	5	152	423	575
	Winter	11	14	25	. . .	5	5	. . .	3	3	. . .	1	1	1	4	5	2	2	4	14	29	43
	Spring	4	12	16	. . .	1	1	2	3	5	. . .	. . .	. . .	. . .	6	6	2	4	6	8	26	34

Engineering	Autumn..	386	3	389	56	....	56	22	....	22	3	....	3	2	....	2	2	....	2	471	3	474
	Winter...	20	....	20	3	....	3	....	....	....	....	....	....	1	....	1	1	....	1	25	....	25
	Spring...	4	....	4	4	....	4	....	....	....	....	....	....	1	....	1	....	....	....	9	....	9
Law	Autumn..	32	4	36	5	....	5	1	....	1	....	....	....	....	....	....	....	....	....	38	4	42
	Winter...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Spring...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Medicine	Autumn..	20	....	20	1	....	1	3	....	3	....	....	....	....	....	....	....	....	....	24	....	24
	Winter...	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
	Spring...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Nursing	Autumn..	....	29	29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	29	29
	Winter...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Spring...	....	8	8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	8
Pharmacy	Autumn..	49	5	54	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	49	6	55
	Winter...	2	1	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	3
	Spring...	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Vet. Med.	Autumn..	29	....	29	1	....	1	1	....	1	1	....	1	....	....	....	....	....	....	32	....	32
	Winter...	5	....	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	5
	Spring...	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
TOTAL	Autumn..	1,856	782	2,638	185	116	301	128	104	232	19	16	35	25	14	39	12	6	18	2,225	1,038	3,263
	Winter...	108	34	140	16	11	27	8	6	14	1	1	2	8	9	17	5	3	8	144	64	208
	Spring...	52	32	84	8	5	13	8	4	12	....	....	....	3	8	11	3	4	7	74	53	127
Graduate School ..	Autumn..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	104	64	168
	Winter...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	19	7	26
	Spring...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	14	23	37
TOTAL	Autumn..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2,329	1,102	3,431
	Winter...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	163	71	234
	Spring...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	88	76	164

NUMBER AND RANK OF NEW STUDENTS
SUMMER QUARTER—1928

	Freshman			Sophomore			Junior			Senior			Special			Irregular			Transient			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agriculture	2	9	11	....	3	3	....	4	4	....	....	....	....	2	2	....	4	4	....	5	5	2	27	29
Applied Optics	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
Arts	7	10	17	1	5	6	2	6	8	1	....	1	....	2	2	4	3	7	14	18	32	29	44	73
Arts-Edu.	....	....	.....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	.....	.....	1	1
Commerce	5	3	8	2	3	5	....	....	....	....	....	....	....	4	4	....	....	....	4	1	5	11	11	22
Dentistry	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
Education	12	57	69	5	66	71	3	17	20	....	....	....	20	37	57	25	25	50	16	65	81	81	267	348
Engineering	1	....	1	2	....	2	....	....	....	....	....	....	....	....	....	....	....	....	3	....	3	6	.....	6
Law	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
Medicine	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
Pharmacy	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
Vet. Medicine	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	....
	27	79	106	10	77	87	5	28	33	1	....	1	20	45	65	29	32	61	37	89	126	129	350	479
Graduate School	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....	159	96	255
																						288	446	734

SUMMARY—YEAR 1928-29 *

Enrollment by States and Countries

Alabama	4	Mexico	1
Argentine Republic	1	Michigan	30
Arizona	2	Minnesota	17
Arkansas	6	Mississippi	7
Austria	1	Missouri	13
California	7	Montana	5
Canada	8	Nebraska	8
Canal Zone	2	New Hampshire	3
China	31	New Jersey	81
Colombia, S. A.	1	New York	102
Colorado	6	North Carolina	12
Connecticut	15	North Dakota	2
Czecho Slovakia	1	Ohio	12,540
District of Columbia	14	Oklahoma	6
Dominican Republic	2	Oregon	3
England	1	Pennsylvania	185
Ethiopia	1	Peru	1
Florida	20	Philippine Islands	8
France	2	Porto Rico	3
Georgia	8	South Carolina	5
Hawaii	6	South Dakota	3
Idaho	2	Spain	2
Illinois	54	Tennessee	15
India	3	Texas	18
Indiana	101	Utah	3
Iowa	28	Vermont	2
Japan	4	Virginia	16
Java	1	Washington	5
Kansas	9	West Virginia	134
Kentucky	30	Wisconsin	11
Louisiana	7	Wyoming	1
Maine	3		
Maryland	9	Total	13,657
Massachusetts	25		

Enrollment in Ohio by Counties

Adams	26	Hamilton	170	Noble	36
Allen	98	Hancock	91	Ottawa	39
Ashland	51	Hardin	81	Paulding	32
Ashtabula	124	Harrison	35	Perry	85
Athens	56	Henry	25	Pickaway	99
Auglaize	71	Highland	45	Pike	18
Belmont	125	Hocking	43	Portage	59
Brown	19	Holmes	29	Preble	52
Butler	109	Huron	59	Putnam	53
Carroll	17	Jackson	51	Richland	86
Champaign	60	Jefferson	122	Ross	81
Clark	129	Knox	94	Sandusky	70
Clermont	31	Lake	52	Scioto	72
Clinton	52	Lawrence	55	Seneca	59
Columbiana	98	Licking	176	Shelby	37
Coshocton	62	Logan	75	Stark	245
Crawford	85	Lorain	151	Summit	172
Cuyahoga	1,174	Lucas	236	Trumbull	105
Darke	76	Madison	76	Tuscarawas	110
Defiance	24	Mahoning	231	Union	73
Delaware	179	Marion	107	Van Wert	42
Erie	86	Medina	36	Vinton	14
Fairfield	143	Meigs	36	Warren	31
Fayette	44	Mercer	47	Washington	93
Franklin	4,458	Miami	71	Wayne	117
Fulton	52	Monroe	39	Williams	63
Gallia	24	Montgomery	336	Wood	73
Geauga	48	Morgan	56	Wyandot	40
Greene	73	Morrow	34		
Guernsey	65	Muskingum	166	Total	12,540

* Including Autumn, Winter and Spring Quarters, number in Summer Quarter and Lake Laboratory who did not return during the current year, and the Winter Course in Agriculture.

SUMMARY—YEAR 1928-29 *

Occupational Census of Parents and Guardians

Accountants, Clerks, Bookkeepers	229	Junk Dealers	31
Advertising	22	Laborers	200
Apiarist	1	Laundrymen	12
Architects, Draftsmen	31	Librarians	2
Army and Navy	19	Liverymen and Teamsters	13
Artisans	39	Livestock Dealers	21
Attorneys, Judges, Statesmen	211	Machinists	118
Auctioneers	2	Manufacturers	210
Automobile Dealers	47	Mechanics	88
Bakers and Confectioners	52	Merchants	675
Bankers	116	Millers	24
Barbers, Beauty Culturists	60	Mine Operators	38
Baseball Players	2	Missionaries	10
Blacksmiths	18	Musicians and Artists	26
Bookbinders	3	Oil Producers and Dealers	68
Brokers	47	Opticians and Optometrists	18
Business	63	Osteopaths and Chiropractors	5
Business Executives, Mgrs., Supts., Secys.	410	Pawn Brokers	2
Butchers, Meat Dealers	49	Photographers	11
Cantor	2	Physicians, Surgeons, Nurses	274
Carpenter, Cabinet Maker	192	Piano Tuners	1
Chauffeurs	2	Plasterers	12
Chefs. Cooks, Caterers	11	Plumbers	31
Chemists	12	Politicians	1
Clergymen	225	Potters	16
Coal and Ice	80	Poultrymen	9
Contractors and Builders	353	Printers and Publishers	86
Dairymen	57	Quarrymen	8
Decorators and Painters	64	Railway, Lake and Street Railway Officials and Employees	443
Dentists	81	Real Estate	274
Designers	10	Retired	373
Detectives	3	Roofers and Tinners	8
Divers	1	Rubber Workers	16
Druggists and Pharmacists	79	Sailors	2
Dry Cleaners and Pressers	23	Salesmen	547
Editors and Newspapermen	36	School Officials, Professors, and Superintendents	336
Electricians	60	Shoe Workers and Repairers	18
Engineers (Professional)	176	Social Workers	4
Engineers (Stationary)	131	Students	5
Entomologist	1	Surveyors	1
Farmers and Ranchers	1,857	Tailors and Seamstresses	86
Filling Station Operators	12	Taxidermist	1
Fishermen	3	Telegraph, Telephone Officials, and Operators	48
Florists, Gardeners, Nurserymen	85	Toolmakers	10
Foremen	127	Theatre	18
Fruit Dealers	34	Traffic Managers	13
Furriers	11	Transfer and Storage	20
Garage, Repairing	22	Undertakers	30
Gas and Fuel	16	Upholsterers	6
Glassworker	10	Veterinarians	23
Golf, Professional	4	Violin Makers and Repairers	3
Government, State, County, Municipal	358	Watchmen	12
Grain, Hay, Lumber	86	Well-Drillers	5
Grocers	142	Wholesale	42
Hotel, Restaurant Owners and Employees	50	Y.M.C.A. and Y.W.C.A. and other Religious workers	11
Importers	2	Mothers with no occupations	1,071
Inspectors	23	None Given or Deceased	1,885
Insurance	188		
Interior Decorators	15	Total	13,657
Iron and Steel Workers and Molders	165		
Janitors, Maids	42		
Jewelers	46		
Jobbers	18		

* Including Autumn, Winter and Spring Quarters, number in Summer Quarter and Lake Laboratory who did not return during the current year, and the Winter Course in Agriculture.

SUMMARY—YEAR 1928-29 *

RELIGIOUS CENSUS OF STUDENTS

A.M.E.	42	Methodist Protestant	43
Atheist	1	Southern Methodist	1
Baptist	531	Mission	3
Brethren	45	Moravian	9
Catholic	937	Mormon	6
Christian	290	Nazarene	11
Christian Science	124	People of Truth	1
Church of Christ	303	Presbyterian	1,753
Church of God	15	Protestant	84
Community	75	Protestant Episcopal	5
Congregational	468	Reformed	222
Disciple	60	Reformed Jewish	3
Dunkard	3	Seventh Day Adventist	13
Episcopal	450	Swedenborgen	1
Evangelical	139	Swedish Mission	1
Evangelical Protestant	4	Union	6
Friends	80	Unitarian	21
Gethsemane B.C.	1	United Brethren	283
Greek Orthodox	8	United Evangelical	1
Independent Protestant	14	United Presbyterian	143
International Bible Student	6	Universalist	27
Jewish	906	Zionist	1
Lutheran	738	None Given	1,952
Mennonite	30		
Methodist Episcopal	3,797	Total	13.657

* Including Autumn, Winter and Spring Quarters, number in Summer Quarter and Lake Laboratory who did not return during the current year, and the Winter Course in Agriculture.

SUMMARY OF DEGREES AND CERTIFICATES

SUMMER QUARTER CONVOCATION—1928

College	Degree	Men	Women	Total	Grand Total
Graduate School	Ph.D.	23	3	26	
	M.A.	77	41	118	
	M.Sc.	20	5	25	169
Agriculture	B.Sc. in Agr.	5	—	5	
	B.Sc. in H.E.	—	5	5	10
Arts	B.A.	34	24	58	
	B.Sc.	—	1	1	59
Commerce	B.Sc. in Bus. Adm.	25	1	26	
	B.Sc. in Jour.	1	3	4	
	B.Sc. in Soc. Adm.	—	4	4	34
Dentistry	D.D.S.	6	—	6	6
Education	B.Sc. in Edu.	20	70	90	90
Engineering	B.Ch.E.	2	—	2	
	B.C.E.	2	—	2	
	B.E.E.	1	—	1	
	B.E. Physics	2	—	2	
	B.I.E.	1	—	1	
	B.M.E.	2	—	2	10
Medicine	M.D.	5	2	7	7
Total Degrees		266	159	385	385

Candidates for degrees	380
Candidates receiving two degrees	5
	385

Autumn Quarter Convocation—1928

College	Degree	Men	Women	Total	Grand Total
Graduate School	Ph.D.	7	3	10	
	M.A.	13	6	19	
	M.Sc.	2	—	2	31
Agriculture	B.Sc. in Agr.	12	—	12	
	B.Sc. in H.E.	—	7	7	19
Arts	B.A.	12	5	17	17
Commerce	B.Sc. in Bus. Adm.	21	2	23	
	B.Sc. in Jour.	1	—	1	
	B.Sc. in Soc. Adm.	—	3	3	27
Education	B.Sc. in Edu.	10	15	25	
	B.Land.Arch.	1	—	1	26
Engineering	B.Arch.	2	—	2	
	B.Arch.E.	1	—	1	
	B.Cer.E.	3	—	3	
	B.C.E.	11	—	11	
	B.E.E.	2	—	2	
	B.I.E.	3	—	3	
	B.M.E.	3	—	3	
	B.Met.E.	1	—	1	26
Medicine	M.D.	1	—	1	1
Pharmacy	B.Sc. in Phar.	3	—	3	3
Total Degrees		109	41	150	150

Candidates for degrees 149
Candidates receiving two degrees 1
150

Winter Quarter Convocation—1929

College	Degree	Men	Women	Total	Grand Total
Graduate School	Ph.D.	6	—	6	
	M.A.	12	8	20	
	M.Sc.	10	1	11	37
Agriculture	B.Sc. in Agr.	16	—	16	
	B.Sc. in H.E.	—	3	3	19
Arts	B.A.	21	10	31	31
Commerce	B.Sc. in Bus. Adm.	20	1	21	
	B.Sc. in Jour.	3	3	6	27
Education	B.Sc. in Edu.	5	11	16	16
Engineering	B.Arch.	1	—	1	
	B.Arch.E.	5	—	5	
	B.Ch.E.	1	—	1	
	B.C.E.	7	—	7	
	B.E.E.	4	—	4	
	B.E. Physics	1	—	1	
	B.E.M.	1	—	1	20
Total Degrees		113	37	150	150

Candidates for degrees 148
Candidates receiving two degrees 2
150

ANNUAL JUNE COMMENCEMENT—1929

College	Degree	Men	Women	Total	Grand Total
Graduate School	Ph.D.	22	3	25	
	M.A.	52	42	94	
	M.Sc.	28	5	33	152
Agriculture	B.Sc. in Agr.	49	...	49	
	B.Sc. in H.E.	...	46	46	95
Arts	B.A.	136	98	234	
	B.Sc.	16	2	18	252
Commerce	B.Sc. in Bus. Adm.	72	8	80	
	B Sc: in Jour.	15	8	23	
	B.Sc. in Soc. Adm.	...	14	14	117
Dentistry	D.D.S.	54	0	54	54
Education	B.Sc. in Edu.	48	151	199	
	B.Land.Arch.	5	...	5	204
Engineering	C.E.	2	...	2	
	E.E.	13	...	13	
	M.E.	5	...	5	
	B.Arch.	7	...	7	
	P.Arch.E.	11	...	11	
	B.Cer.E.	18	...	18	
	B.Ch.E.	13	...	13	
	B.C.E.	23	...	23	
	B.E.E.	32	...	32	
	B.I.E.	13	...	13	
	B.M.E.	21	...	21	
	B.Met.E.	8	...	8	
	B.E.M.	2	...	2	
	B.E.Physics	4	...	4	
	B.Sc. in App. Opt.	7	...	7	179
Law	J.D.	4	...	4	
	LL.B.	68	3	71	75
Medicine	M.D.	68	3	71	71
Pharmacy	B.Sc. in Phar.	21	...	21	21
Veterinary Medicine	D.V.M.	15	...	15	15
Certificate of Graduate Nurse		...	17	17	17
Certificate of Pharmaceutical Chemist		1	...	1	1
		853	400	1,253	1,253

Degrees—Men	853
Degrees—Women	400
	1,253
Candidates for degrees and certificates	1,228
Candidates receiving two degrees	25
	1,253

Grand Total for the Year 1928-1929

Graduate School	389
College of Agriculture	143
College of Liberal Arts	359
College of Commerce and Administration	205
College of Dentistry	60
College of Education	336
College of Engineering	235
College of Law	75
College of Medicine	79
College of Veterinary Medicine	15
College of Pharmacy	24
Certificate of Graduate Nurse	17
Certificate of Pharmaceutical Chemist	1
	1,938
Degrees—Men	1,301
Degrees and certificates—Women	637
	1,938
Candidates for degrees and certificates	1,905
Candidates receiving two degrees	33
	1,938

ENTRANCE BOARD

University Examiner, B. L. STRADLEY

COMPARATIVE ADMISSION STATISTICS
1928-29 and 1927-28

Colleges	New Students		Transfers		Totals	
	1928–29	1927–28	1928–29	1927–28	1928–29	1927–28
Agriculture	330	318	63	59	393	377
Agriculture-Education	....	....	....	1	....	1
Agriculture-Vet. Medicine	....	....	....	2	....	2
Applied Optics	11	15	3	6	14	21
Arts	1,376	1,477	191	214	1,567	1,691
Arts-Agriculture	....	....	1	....	1	....
Arts—Commerce & Administ.	....	....	....	3	....	3
Arts-Education	26	23	39	48	65	71
Arts-Engineering	....	....	1	2	1	2
Arts-Law	....	....	13	29	13	29
Arts-Medicine	....	....	10	7	10	7
Commerce & Administration	853	804	257	218	1,110	1,022
Commerce & Adm.-Law	....	....	4	2	4	2
Dentistry	27	35	17	74	44	109
Education	1,075	1,078	250	278	1,325	1,356
Engineering	571	587	59	41	630	628
Law	46	50	86	67	132	117
Medicine	27	45	71	57	98	102
Nursing, School of	39	....	10	....	49	....
Pharmacy	60	80	10	11	70	91
Veterinary Medicine	41	42	5	15	46	57
Graduate School	567	559	331	293	898	852
Graduate School-Arts	....	....	1	....	1	....
Graduate School-Medicine	....	....	....	3	....	3
Totals	5,049	5,113	1,422	1,430	6,471	6,543

Summarizing the admissions for the four quarters of the year 1927-28 and 1928-29, we find a net grand total of 6,471 for the past year and a grand total of 6,543 for the year 1927-28. This is a decrease of 72. The decrease, however, is not particularly significant, since last year the increase over the previous year (410) was quite high.

The peak load of admissions was, of course, in the Autumn Quarter, the grand total being 4,418, while last year it was 4,583. The Summer Quarter admissions for 1928-29 reached 1,053, which exceeded the admissions of 1927-28 by 80. The Winter Quarter admissions this year fell somewhat below last year, a decrease of 22, but there was an increase in the Spring Quarter of 35.

FRESHMAN CLASS

The decrease this year fell in the freshman class. We admitted 2,886 freshmen from accredited secondary schools, while last year 3,073 were ad-

mitted. Proportionate admissions from Ohio high schools increased somewhat both last year and this year. There were 2,511 freshmen admitted from secondary schools in Ohio this year, and 375 from schools outside of Ohio. During the past year, 749 students were admitted from local high schools, while in the previous year we admitted 752, and the year before that 789.

There is an increase in number of applicants each year from the Eastern States. Freshman applicants from New York State are required to submit a Regents diploma for admission. Twenty-six were admitted on this basis the past year.

ENTRANCE CONDITIONS IMPOSED ON FRESHMAN CLASS BY SUBJECTS AND COLLEGES

College	Alg.	Plane Geom.	Solid Geom.	Physics	Science	English	Foreign Lang.	Amer. History	Civil Govt.	Total Con'd	Freshmen Con'd	Total Freshmen	Per cent of Fresh. Con'd
Appl. Optics	...	1	...	..	..	..	..	..	..	473	373	2,612	14.28
Arts	11	48	...	..	10	..	..	..	..	69	59	941	6.27
C. and A.	15	62	...	..	3	..	..	..	..	80	67	661	10.13
Education	9	3	...	..	1	..	..	..	..	13	13	484	2.69
Engineering	71	1	105	58	..	..	68	..	..	303	226	468	48.29
Pharmacy	...	7	...	..	..	..	..	..	..	7	7	51	13.72
Totals	106	122	105	58	14	..	68	..	..	473	373	2,612	14.28

CLASSIFICATION OF FRESHMEN BY HIGH SCHOOL GRADES

COLLEGE	No. of Freshmen	Upper		Middle		Lower	
		No.	Per Cent	No.	Per Cent	No.	Per Cent
Agriculture	218	84	38.53	104	47.71	30	13.76
Appl. Optics	7	1	14.28	4	57.14	2	28.57
Arts	941	307	32.62	454	48.24	180	19.64
Arts-Education	18	12	66.66	3	16.66	3	16.66
C. and A.	661	177	26.78	334	50.53	150	22.69
Education	501	234	46.71	214	42.71	53	10.58
Engineering	441	162	36.73	222	50.34	57	12.93
Nursing	39	20	51.28	14	35.90	5	12.82
Pharmacy	52	12	23.08	27	51.92	13	25.00
Vet. Medicine	34	6	17.65	22	64.70	6	17.65
Totals	2,912	1,015	34.85	1,398	48.01	499	17.14

ADVANCED STANDING

There was an increase of 87 this year in the number of students admitted with advanced standing, and last year an increase of 145 over the previous year. The figures for the last three years are as follows:

1928-29	1927-28	1926-27
1,181	1,094	949

During the year 1928-29, the Entrance Board found it necessary to decline admission to 114 applicants for advanced standing. These students were refused admission on the basis of scholastic standing and their general record and, in a few cases, for disciplinary reasons.

INTER-COLLEGE TRANSFERS

The grand totals include inter-college transfers. The Entrance Board has made a special effort in the last few years to keep these transfers within legitimate bounds and has discouraged whimsical and unwarranted changing from college to college. Students who have applied for transfer have been advised and each request carefully considered. The number of transfers this year decreased by 8.

SPECIAL STUDENTS

One hundred fifty-eight students were admitted this year as compared with 150 last year. Seventy-eight of these were admitted for the Summer Quarter.

GRADUATE SCHOOL

Comparisons of graduate school admissions for the last few years show a steady increase each year. The increase during 1928-29 over 1927-28 was 46, and both last year and the year before the increase over the previous year was 95.

Admissions to Graduate School on basis of degrees conferred by The Ohio State University	331
Admissions to Graduate School on basis of degrees conferred by other colleges and universities	567
Total	898

INSPECTION OF COLLEGES

The inspection of colleges, particularly within the State of Ohio, is an important work of the University Examiner.

Cedarville and Antioch Colleges asked the University to make an inspection for the purpose of establishing credit relations between these colleges and the State University. The President appointed the following committee to visit these colleges: B. L. Stradley, Dean Walter Shepard, and Professor Roderick Peattie. The inspections were made and the reports submitted to the President and to the Entrance Board.

The University Examiner is chairman of the committee on membership and inspection of The Ohio College Association. This committee is composed of the following members: Dr. George Zook of Akron University, Mr. B. E. Cartmell of Ohio Wesleyan University, Dean Hubert of Cincinnati University, Dean Schoonover of Marietta College, and the chairman. Within the last year this committee inspected and reported on the following colleges: Ursuline of Cleveland, Notre Dame of Cleveland, Findlay of Findlay, Ashland of Ashland, Mt. St. Joseph-on-the-Ohio of Cincinnati, Ohio Northern of Ada, and Antioch of Yellow Springs. On the bases of these inspections the committee recommended Ursuline, Notre Dame, and Antioch for membership in the Ohio College Association. The Association accepted the recommendations, and these colleges were received into full standing. Ohio Northern University was re-inspected and continued on probation for one more year. This work is not only important from the standpoint of the Ohio College Association but is also important to the Ohio State University. From time to time many inquiries come to the Entrance Board for information concerning the standing of colleges, partic-

ularly unaccredited colleges of this state, and the University must visit these colleges in order to gain first-hand information. This practice is not uncommon in state universities. In this way the University is automatically becoming the accrediting agency of the state for all small colleges, since the practice of the University more or less governs the policies for transfer of credits from all Ohio colleges. The smaller colleges, realizing this, have come to depend upon the inspections from the State University and the suggestions offered by our committees for the improvement of their schools in order to meet the requirements of the associations. Therefore, this seems to be a constructive piece of educational work. We have been fortunate in always maintaining friendly relations with all of these colleges regardless of the severity of the criticisms or the hardships imposed upon them.

The University Examiner was appointed by the North-Central Association to inspect and report on a number of institutions seeking membership in the Association. The institutions inspected and reported for consideration and classification as A-grade or first-grade colleges were:

Fairmont State Normal College, Fairmont, W. Va.,
University of Tulsa, Tulsa, Oklahoma,
Sterling College, Sterling, Kansas.

With the approval of the President, the University Examiner proceeded to inspect and report his findings at the last meeting of the North-Central Association held in Chicago. On the basis of his recommendations, the three colleges were received into membership of the North-Central Association. While this invitation to inspect these colleges granted the University Examiner recognition on the part of the Association, the greater benefit was the experience derived from this work. It should tend to make him more efficient. It is important, in the office of the Entrance Board, that the University Examiner have a wide knowledge of colleges not only in the state but outside of the state as well. The University Examiner appreciates the fact that the administration realizes the value of this outside activity and lends such hearty cooperation.

ASSOCIATION OF OHIO COLLEGE REGISTRARS AND EXAMINERS

The registrars and examiners of the colleges of Ohio have an organization called the Association of Ohio College Registrars and Examiners. This year the University Examiner was president of the organization, and the annual meeting was held in Columbus. A profitable and interesting program was arranged for these administrative officers and consideration given to many subjects relative to their work. The University Examiner appreciates the fine cooperation given by the administration in conducting this state meeting.

The National meeting of Registrars and Examiners was held at Seattle. The University Examiner was asked to preside at one of the regular sessions in which the subject of admission to college was discussed. Since it was inconvenient for him to attend the invitation was declined.

SELECTION OF STUDENTS FOR THE PROFESSIONAL COLLEGES

The faculties of the Colleges of Law and Dentistry requested the Entrance Board to admit only students having an academic average of at least two points. The Entrance Board complied with this request.

Heretofore, it was possible to enter the College of Law provided the student had 56 semester or 84 quarter hours of college work and his point average was at least two. The Supreme Court of Ohio has ruled that an applicant who wishes to begin the study of law must have credit for two years in an accredited college, and this has been interpreted to mean 60 semester hours or 90 quarter hours. In order that the University might cooperate with the Supreme Court, the Entrance Board has declined to admit any candidate with less than 90 quarter hours of credit from an accredited college, in addition to satisfying all other requirements.

It may be of interest to note that the University Examiner is also examiner for the Supreme Court of Ohio and passes on the value of all irregular credits in behalf of the candidates who wish to study law in the state of Ohio.

In the College of Medicine, the faculty requested the Entrance Board to select only students with at least 2.5 average. In general, this requirement was enforced, and one hundred students out of several hundreds of applicants were selected by the Entrance Board. The University Examiner has given considerable attention to the selection of the freshman class in the College of Medicine. As a general policy the students were selected upon the basis of scholarship, character, and general fitness. So far as possible, personal interviews were held with the applicants; and, in addition to these interviews, careful attention was given to the academic records. Particular attention was given to the academic performance of students in biology, chemistry, and physics.

The University has held several interviews and carried on considerable correspondence with the appropriate authorities of other universities relative to the selection of freshman classes in medicine for the purpose of improving our methods so far as possible.

APPOINTMENT OF AN ASSISTANT UNIVERSITY EXAMINER

Mr. Howard C. Ginn, a graduate of the University in the class of 1916, was appointed Assistant University Examiner, August 15, 1928. He has proved to be an invaluable assistant in the office of the Entrance Board. Much of his time will be given to the admission of freshmen and cooperation with the Freshman Week Council and Junior Deans. In addition to this work, he will be expected to carry on certain studies relative to the correlation of work done by high-school pupils and work done by the same students as freshmen in college.

In this connection, it should be added that the new freshman certificate which was adopted last year is being of great educational value to the Freshman Week Council and the Junior Deans. This certificate includes not only the high-school record of the applicant but also a statemnet by the principal concerning the applicant. The Junior Deans and the Freshman Council have offered certain suggestions for revision of this certificate in order that it might more completely meet the needs of local conditions.

DEAN OF WOMEN

ESTHER ALLEN GAW

In this report I shall first make a brief statement of the procedures initiated during the year, of those continued, and of those not carried through or discontinued, and will enumerate our blanks, bulletins, and publications. Then I will try to make apparent the principles upon which we are working and our consequent general needs.

NEW PROJECTS

The projects initiated this year are concerned with (1) the students as individuals or groups, (2) the making of more complete records of the students, (3) the personal contacts with students in the dormitories, (4) several adult education projects involving various groups of adults working with the students, (5) courses of study taught by members of the staff of the Dean of Women, and (6) the establishment of the Women's Campus Committee.

1. Projects with or for students:
   a) The Presidents' Council of Panhellenic—a monthly meeting of the presidents of the sororities to discuss their general problems and ideals under the direction of Miss Carter—has brought about increased friendliness and understanding both between the sorority groups and between all of these groups and our office.
   b) Training periods for Student Assistants were held during the Fall and Winter quarters each week. In this hour the junior and senior students who were assisting with the freshmen met in four groups. During the Spring Quarter a training period of three hours was held for those who will become Student Assistants in the year 1929-30. About ninety of all four classes attended these sessions.
   c) Reorganization of the activities of the Pomerene Student Advisory Committee, under the auspices of the Women's Self Government Association and the direct supervision of Mrs. Linn and Miss Bean, has resulted in dancing classes and open-house periods at Pomerene Hall.
2. Records of students made by themselves or by us:
   a) Thirty-four students have worked out a budget of expenses under Mrs. Linn.
   b) Twenty-three hundred sign-out cards, giving records of extra-curricular activities, have been made and evaluated by Miss Bean.
   c) Fifty budgets of time of self-help students have been recorded by Miss Rosemond.
   d) Sixty transcripts of information have been made for Dean Morrill for his use in freshman classes by Mrs. Kurtz. Each transcript included about fifty items.
   e) Records and interviews with students applying for scholarship loans have been made by Mrs. Celia Kahn Rosenthal, who has been a volunteer assistant in the office. Below is the summary, which shows that the average amount received by each of the forty-two students is $64, or just enough for the University fees for a year.

SUMMARY OF LOANS

ORGANIZATION	SUM LOANED	STUDENTS RECEIVING LOANS					TOTAL LOANS
		Grad.	Senior	Junior	Soph.	Fr.	
City Panhellenic*	$ 454	1	3	1	1	2	8
W.S.G.A.†	810	2	4	5	3	.....	14
Columbus Scholarship Society	310	.....	.....	1	1	2	4
Detroit Alumnae	175	.....	.....	2	1	.....	3
Starling Ohio	100	.....	.....	.....	1	.....	1
Ohio State Alumnae	475	.....	1	1	1	2	5
Pittsburgh Alumnae	50	.....	.....	.....	1	.....	1
New York Alumnae	60	.....	.....	1	.....	.....	1
Springfield Alumnae	100	.....	.....	2	.....	.....	2
Wesley Foundation	150	.....	3	.....	.....	.....	3
Totals for Year	$2,684	3	13	11	9	6	42

Students receiving two loans 8

Number individuals receiving loans 34

* Two hundred dollars of this has been repaid.
† One hundred dollars repaid.

f) A rating scale, accompanied by a description of the specific action or attitude of the student rated, has been developed and used constantly for inuumerable interviews by each member of the staff. The scale has also been used for student ratings of other students.

3. Personal contacts with students where they live:

a) In the summer of 1928 every house where a colored undergraduate woman was living was visited by Miss Rosemond and me.

b) All University approved houses—not dormitories or sorority houses—were visited during a very short period in September, 1928, by Miss Rosemond and me and were comparatively rated. This gave us a very good idea of the differences in equipment and effectiveness of the houses where the students live.

c) Personal contacts with the students have been established in the dormitories during the Winter and Spring quarters. This was part of the development of the project of Student Assistants and involved the devotion of an evening every week by Miss Rosemond, Miss Carter, and me, to office hours in one of the University halls of residence. I was responsible for Neil Hall, Miss Rosemond during the Winter Quarter for Oxley Hall, and Miss Carter during the Winter Quarter for Mack Hall and during the Spring Quarter for both Oxley and Mack Halls. Neil Hall also became a University operated dormitory for freshmen during the past year, and therefore came into the same close friendly relationship as the other University dormitories. Our work in the dormitories is not superseding the authority of the Superintendent and her assistants, with whom we work in the most cordial cooperation, but is merely supplementary to that of Mrs. Prout and Mrs. Newton.

d) Sophomore houses have been established for the freshmen, who must leave the dormitories at the completion of three quarters' residence. These are the houses under University approval which have already been on our list and are set aside in the hope of developing the process of "learning how to live together" among the sophomores. Their progress will be given particular attention during the year 1929-30.

4. Adult Education Projects:
   a) Our staff has been constantly becoming educated through their work. Not only have we given particular attention to all helpful current literature, but we have deliberately trained ourselves on the techniques of group discussion and the interview, and have learned to teach this to the students. We have had much help from members of the faculty of the University in this, and in particular from Dr. W. W. Charters and Dr. Jessie A. Charters. All members of the staff except myself have registered in courses of the University as well.
   b) In July, 1928, we held a conference for the mothers of freshman students. This is described in one of the publications mentioned later. All members of the staff cooperate in this project.
   c) Educational meetings for Head Residents in the University houses were held during the Winter and Spring quarters. In the winter the women were divided into small discussion groups, and Miss Rosemond, Miss Carter, and I took charge of the meetings. In the Spring Quarter, Dr. Jessie A. Charters took charge, while the members of the staff all helped in making the summaries. About forty of the Head Residents have attended one or both of these educational series.

5. Teaching:
   a) I have held weekly meetings of entering freshmen each quarter except during the fall. In this meeting, individual needs about study habits were dealt with, and suggestions for budgeting of time and money worked out. In the Spring Quarter Mrs. Linn assumed the responsibility for the meetings of the three sections.
   b) I initiated the course in Psychology 665, Psychological Problems of the Dean of Women, during the first term of the Summer Quarter of 1928. I also have had three students during the year who have been credited in Psychology 650 for research problems worked out with me.
   c) Miss Rosemond has taught one section of Spanish during the Spring Quarter (Spanish 401).

6. Women's Campus Committee:

   With the help of Mrs. Selbert, the members of the Faculty Group of the University Women's Club, and the Women's Self Government Association, I have established a committee responsible for the continuous inspection of the rest rooms in the University buildings. This committee will continue to function permanently and will not only report the needs of these rooms but will conduct an educational campaign in the orderly use of the rooms during the year 1929-30.

PROJECTS CONTINUED

The projects continued this year involve the same relationships with students and adults as the projects initiated.

1. We have continued the usual innumerable interviews with students concerning housing, personal adjustments, and scholarship loans. All of us have been active members of many student committees. For these committees we get information and spend as much time in preparation as though it were a class; in fact, we are virtually teaching whenever we are members of student committees.

2. Miss Carter and Mrs. Kurtz were faculty guides during Freshman Week, 1928, and I had one section in the course of "Efficient Methods of Study" given for freshmen last fall.
3. Mrs. Kurtz made a preliminary study of our questionnaire and has improved our methods of making records. She has kept the information of entrance records at hand. All of us keep adding to our records after any interview. We have continued the registration of all women undergraduates each quarter.
4. Our study of methods of other campuses has continued. We have had many national visitors from various organizations.
5. Mrs. Linn has continued with the study of the management of Pomerene Hall. She has been able to make changes in the pricing of menus for parties which have brought them to a self-supporting basis. She has done the customary buying and planning for parties, training of serving-boys, supervisions of housecleanings and the daily directions of the janitors and maids.
6. All of us have made speeches, radio talks, reports, helped with organizations, or made other friendly contacts with the community. Miss Rosemond, Miss Carter, and I went to the meeting of the Deans of Women in Cleveland at our own expense.
7. Instead of trying to continue the meeting with all Freshman Women once a week in the fall, I met as many as possible through the College survey course twice during that quarter. The College of Commerce arranged two special meetings for me. In these two hours I was enabled to collect records on several of our special blanks.
8. I should also mention that I was asked by President Hughes of Iowa State College at Ames, Iowa, to make a survey of the work of the Dean of Women in that institution. I spent two days studying the whole organization and made two reports. One report consisted of a long discussion with the Assistant Dean of Women and the Secretary of the University. The other was a formal written report, embodying my observations and suggestions. I was employed as a supposedly impartial, impersonal observer and critic. Perhaps this was the first expert survey of the work of a Dean of Women ever made.

PROJECTS NOT CARRIED THROUGH

There has been no progress on the housing for colored women, nor on a house for cooperative living. Both of these need serious consideration by the University.

BLANKS,* BULLETINS, AND PUBLICATIONS

1. Blanks Printed by the University Press:

   The Ohio Personality Traits Check List
   Eligibility Lists for Sorority Initiation
   Sorority Membership Blank
   Women's Panhellenic Individual Membership Cards
   Self-Help Application Blanks
   Room Registry Cards

* The reason for making special mention of the printing of blanks is that we have been experimenting to find the best forms and have finally developed those mentioned above to such a stage that we are justified in having them put into permanent form.

2. Bulletins:

a) Printed by the University Press:
Housing Information for 1929
Directions for the Use of Pomerene Hall

b) Mimeographed in our own office:
Reports of Psychology 665, "Psychological Problems of the Dean of Women." August, 1928. 24 pages.
Sophomore Questionnaire, 1928-1929. 8 pages.
Freshman Questionnaire, January, 1929. 8 pages.
Scholarships and Loans in Ohio Colleges and Universities. February, 1929, 87 pages.
Report of Campus Committee, March, 1929, 12 pages.
Summary of Discussion on Smoking, March, 1929. 4 pages.
Societies granting loans at The Ohio State University. Report for the previous year, May 15, 1929. 3 pages.
Eighty-four short announcements, summaries, or circular letters to organizations or individuals.

3. Publications:

a) Occupational Interests of College Women. *The Personnel Journal*, Vol. VII, No. 2, pp. 111. August, 1928. Gaw.

b) Five Studies of the Music Tests. Psychological Monographs, Vol. XXXIX, No. 2, 1928. pp. 145-156. Gaw.
Bulletin, Ohio State University, Vol. VIII, No. 10, pp. 222-224. May, 1929. Gaw.

d) Student Leadership. *Educational Research Bulletin*, Ohio State University, Vol. VIII, No. 10, pp. 225-226. May, 1929. Kurtz.

SPIRIT OF THE STAFF

The underlying spirit of the work of those in my staff is first that of trying to discover the difficulties experienced by the students in adapting themselves to this environment, and then finding out how these difficulties might have been foreseen or may be overcome. In order to attain either of these ends, we must be set up on an experimental basis. Therefore we are attempting what is happening and our methods of solving problems, while at the same time inventing progressively better methods of record and solution.

The personal and social problems of the undergraduate women are due to backgrounds which may involve bad methods of study, bad emotional or cultural habits, or intrinsically narrow and egocentric ideals. Among the eighteen-year-old adolescents who come to the campus there are at present many who will fail to develop as they should either academically or socially or both, because of this imperfect background. Until recent years the University has unconsciously taken the stand that if a student has a reasonable degree of success in his curricular activities, that is all that is necessary. The much broader new program of the University assumes to educate the whole student. The usual channels of instruction are able to take care of teaching how to study. This problem the University is solving in a remarkable way. Since emotional and cultural habits and social ideals, however, may develop quite apart from ability to achieve apparently reasonable academic success, our experiments resolve themselves into a study of the social situations in which

the students are not adequate. My staff is peculiarly able to study the social adaptation of undergraduate women, because we can use all the housing units as parts of an experiment in "learning to live together."

The lack of adjustment with which we are concerned will show itself in many ways. An undergraduate woman may have too many social contacts, or she may have almost none. She may have contacts in which she is a focus of discontent or irritation wherever she appears, or she may be unable to add even discontent to her group. She may have money and time enough but be so profligate of both that she has neither time nor money for reasonable demands, or she may be such a niggard of her time and money that she fails in normal human contacts. She may have too much work to do, or she may have too little. She may scheme with the political agencies of the undergraduate world and be assigned responsibility only to gain the glory and let the work remain at sixes and sevens, or she may refuse to take any responsibility. She may be in ill health or half health, and on the one hand make this an excuse for childish indulgences and regressions, or, on the other hand, recklessly overdraw her scant resources.

The illustrations and contrasts could be multiplied indefinitely, and are not characteristic of a college population alone but of the larger society from which it springs. The University might say "Why bother?" but on the contrary, it is now definitely pledged to a broader interpretation of its responsibilities. As a consequence we in the staff of the Dean of Women as our part are committed to a three-part program of emotional and social education. The first part of the program is to find out those potentially undeveloped or maldeveloped. For this we have some help from the entrance records of every kind, the cumulative scholarship record, inadequate health and sickness records, and imperfect records of so-called extra-curricular activities and the scattering records of difficulties which are brought to our attention. The larger part of the records are not only imperfect but have as yet little diagnostic meaning. We have much help from the various agencies of the University which make records. But in order to be really effective we must also contribute to the making and evaluation of records. We must therefore learn how to make our records show potential social difficulties.

The second part of the program is to find out how to educate the undeveloped or to re-educate the maldeveloped. Here we have help in an extreme case but not for the usual mild cases. The third part of the program is to develop an intelligent and discriminating self-orientation attitude on the part of the undergraduates during which they will define the desirable qualifications of a college woman and individually work toward such ideals. In this part of our program we strike the universal difficulty that no one—least of all a college undergraduate—knows how to define the effective college woman.

Until the elders in the University have some scientific and compelling statement of what it means for an eighteen-year-old woman to be emotionally, intellectually, and actively effective, able to work alone and with others, with a perspective based upon the best ideals of the family, community and the world, it is no wonder that the undergraduate shows herself at sea. I do not mean that the elders, according to the method already tried for centuries in the education of the young, should say "This is the way we have found effective; you must do this our way and can do it no other way." I do mean that the elders must learn to stand by and help the undergraduate be actually "self-determining" in the light of the best ideals which both can find. Thus the third

task becomes a twofold one of helping the undergraduate state for herself what she would like to become and of finding the best way to "lend her a hand."

The maldeveloped soon reveal themselves. In a college population of ten thousand there are sure to be a number of them. Sometimes they can be reached for education or re-education but usually not. Because they are few, they really concern us very little. Those undergraduate women who cannot adjust themselves to the minimum essentials of social adaptation should not be given very much of our energy either for punishment or adjustment. My own feeling is that if there is any reason for disqualification from the University, it should be not failure to do a certain amount of study in a required time, but interference with the ease and quiet of others who do wish to receive what the University offers. My staff and I are, however, very much concerned with the lack of the highest social development in a large proportion of the college women. These I call the undeveloped.

I use social development in a large sense to mean habits that enable an undergraduate to be at ease with her classmates, with her instructors, and with strangers; habits that enable her to take responsibility if necessary, and that have been developed by taking responsibility in cooperation with others; habits which enable her to talk to one who seems to disagree with her without emotional reactions which manifest themselves in many devious ways; in fact, I use social development to mean an understanding of human nature and the deliberate cultivation of such desirable actions growing out of this comprehension.

There are too many college graduates who leave our campus without experiences which would give such development. Therefore we are concerned to see that all students can enter upon such contacts with groups of other students so that these habits may be attained. We believe that instead of, or at least supplementary to, that rather small number of stereotyped organizations which are recognized in student thought, we should have an infinitely multiplied number of student organizations, enough for each one to get experiences of organization, contact, and cooperation. There are some students who are seen in any group, and who would not know how to act if they were there. Miss Bean has been making records of campus activities which will make this very apparent.

We have encouraged the use of Pomerene Hall for temperate social events during the past year with great success. The building is used for dancing classes and open-house dancing which has been a distinct addition to the campus. One dancing class is going on also in Neil Hall. The classes were started for the women but now include men.

The students whose hours of recreation are circumscribed by their work have been helped to make social adjustments this year. The "self-help" students gave a party with pantomime plays, and have been made to find social and personal help to some little extent. The work with the freshmen through the Student Assistants has enabled many an undeveloped student to begin her social training. This work has been carried into the Halls of Residence by Miss Rosemond, Miss Carter, and me, one night a week during the Winter and Spring quarters. It also involved meetings with the Student Assistants which have taught us much and have accomplished some desirable results. The older students in the sororities have also been giving the training of Student Assistants and feel that it has been extremely helpful in the development of desirable attitudes within each group. Many students have given volunteer

help in Pomerene Hall for an hour or more a week; and under the central direction of the Pomerene Advisory Committee, with the help of Mrs. Linn and Miss Bean, have developed a feeling of student responsibility for the Women's Union which has never existed before. Student-initiated uses for the building have sprung up during the year. The Girls' Glee Club now holds rehearsals in Pomerene Hall, and student orchestras for dancing have had spasmodic rehearsals.

I may seem to have wandered from the point of the "undeveloped student" in the paragraph above. The building has always been used by the well-established women's organizations. But this year many loosely knit, spontaneous groups have begun to use the rooms. In our belief this is a move in the right direction because it means that ever widening circles of undergraduates, often of those who have had few and feeble social contacts, are getting normal social contact with people of their own age. It is our deliberate policy to foster all such movements because we believe in the educational effects of spontaneous, amusing, and temperate recreation.

We are reaching such constantly increasing numbers of individual students through the above contacts that we are almost swamped. It would be comparatively simple for us to interview the few students who have outstanding difficulties, to reach the innumerable ones who should have just the right word at the critical moment involves us in much more work. We are therefore trying to make the office one of sorting out. We are teaching the Student Assistants to the Dean of Women to recognize difficulties which are beyond them. These are passed over to the dispassionate members of my office.

So much in general for the two first parts of our problem, these of the finding of the undeveloped student and her education; the third part is almost entirely a project for the future, namely the defining of the effective college undergraduate.

We are also trying to give any difficulty a general open-minded unemotional discussion. We pursue this technique in any matter which comes to our attention. If it is a misunderstanding between two individuals, instead of seeing them separately, we can get both togetehr and try to come to some mutual reconciliation. In a campus problem such as women's smoking, where many people are involved, we have the same open discussion. This latter discussion was patiently worked through in three long sessions several weeks apart, with the pooling of all possible campus prejudices, and information, while the reading of the best and most recent scientific books was simultaneously going on. The decision of the Women's Self Government Association Committee to rescind the rule, therefore, became a studied and well-considered plan, offering the suggestion that each house and each individual should make some suitable constructive action. Under a different method of procedure this might have been a hasty, badly managed solution, full of emotional background and blindness. We consider any such frank discussion as a part of our plan for the social education of the undergraduate women.

Our projects for adult education are part of the same plan. For, if the older people are not able to show judgment, poise, and understanding of the springs of human behavior, neither can the undergraduates.

The needs of our office growing out of the plans briefly described above become increasingly great. We must plan, make records, and educate simultaneously. We need help, particularly clerical, at once. It is possible that in the future we can learn to train the students so to help themselves that we will

not need to continue to increase our staff. I look forward to that time. But at present we see so much more to be done than it is humanly possible to accomplish that we must choose between tasks, assuming one while we leave several equally important undone.

In conclusion, I cannot stress too much the mutual interest and cooperation of all those who are in the staff, including the secretaries. Among them should also be mentioned Mrs. Prout and Mrs. Newton, as well as all the superintendents of dormitories and head residents. The University is a debtor to all of the women engaged in the supervision of the houses where the undergraduate women live.

STUDENT COUNSELOR

J. A. PARK

At the close of his second year as Student Counselor, the present incumbent finds himself in a much more defined sphere of activity than at this time a year ago. The three groups having relations with this office, namely, students, faculty, and non-university people, have been making increasing use of the Student Counselor in relationships outside those of formal classroom work.

With the work of the Junior Deans becoming effective during the past year, we have noticed a smaller number of men coming into this office for what might be called educational and vocational advice. This is as it should be, and bears testimony to the effectiveness of these new officers. On the other hand, we have had increasing numbers of men desiring counsel on personal and social matters. There is no sharp division between any of these classifications, but in general the latter two are to the greatest extent presented at this office.

To scan briefly the work of the year in a more or less chronological fashion, we find that this office provided student leaders for Freshman Week, sent 1,300 letters at the opening of the fall quarter to parents of freshman men assuring them of the personal interest of the University staff in making available for every student the complete resources of the University; and later at various intervals during the year when students had made particularly good scholastic records, letters were sent expressing our pleasure in their attainment.

The consideration of cases involving remission of fines for late registration, late payment of diploma fees, and deferring payment of tuition fees belongs in this office as well as the excuse of groups of students from class attendance. The Student Counselor serves on the Student Loan Committee, the Council on Student Affairs, the Committee on Conduct in Examinations, and the Committee on Superior Students. On this last committee, his connections with Phi Eta Sigma, the freshman honorary scholastic society, and the annual Scholarship Day exercises honoring the outstanding students of the University have been a source of great satisfaction.

The men's Student Senate received this past year for the first time a subsidy from the University of $2,000. This has resulted in a stabilizing of the work of the Senate and indirectly its subsidiary, the Student Court. At the close of the Spring Quarter, a combination of the men's and women's student governing bodies was made, and we expect, during the coming year, to see some interesting developments in student government. The Student Counselor represents the administration on the Senate.

The work of the Auditor of Student Organizations has continued in this office. The organizations aided in the conduct of financial affairs by the Auditor continue to grow in number and size. The amount audited this year will far exceed the budget of our largest academic department. Miss Auch has done excellent work in this capacity, having established the work seven years ago, and we regret the fact that we shall lose her this year.

The Student Counselor has maintained as many informal contacts as possible. Bi-weekly visits to students ill in the University hospital have been much appreciated. Attendance at a great variety of student affairs, business

meetings, fraternity installations, and the like have been a pleasant task. Beginning a few months ago, the Student Counselor has been in his office each Tuesday evening, and groups of students have dropped in to discuss a wide variety of topics during the evening. Somewhat in the nature of a forum with a free and easy interchange of ideas, this has been a stimulating experience, and will be carried on.

Another new feature of the year's work has been the establishment of a fraternity credit rating list to parallel the scholastic standing list. It is hoped that this will help to build a desire to do equally well in each classification. A combination of the two principal dramatic organizations has been effected. This is expected to reduce competition and better the quality of productions.

A few off-campus contacts have been made—chiefly at the University of Chicago in July where during the Institute for Administrative Officers the Student Counselor led two groups in a discussion of Personnel Problems, and again in April at the Washington Conference of Deans and Advisers of Men where he had a part in the program. A more permanent contact which is greatly appreciated is that with the State Y.M.C.A. of Ohio, where we serve as Chairman of the Student Department.

With the coming of a Housing Assistant into this office next year, it is hoped to develop a new service to students which has been much needed. With the beginning of the new school year comes the change of title to that of Dean of Men. This seems to be the accepted designation of men doing similar work in colleges throughout the country, and the change is made with that thought in mind.

Every change asked for or looked forward to in our last Annual Report has been made. If the work of the Student Counselor is not effective, he has none but himself to blame, for no one could ask for finer cooperation and support from administration, faculty, and students alike. He hopes to be increasingly useful.

YOUNG MEN'S CHRISTIAN ASSOCIATION

Executive Secretary, GLENN D. DALTON

For the student Y.M.C.A. this has been a year of valuable experience and growth. One of its chief values lies in what it will mean for the future. Constantly the students and secretaries have been laying plans, and we have been doing it largely in the light of what we have been learning as we have worked together.

This has not been an easy year. There have been difficulties, just as there are in every endeavor. But we have done our utmost to overcome them. And often we have succeeded. One of the joys of being a Y.M.C.A. secretary lies in just this experience. Mr. Montgomery's leaving two months after he had assumed his duties as freshman secretary necessitated the finding of another man and the realignment of our program responsibilities. Mr. Steinmetz was chosen for our new secretary, and began his duties September 15. Mr. Thomas was assigned the responsibility of Freshman Secretary, and Mr. Steinmetz assumed most of the duties that had formerly been Mr. Thomas'. Both men being new in their respective positions had to find themselves. How well they have done this is best seen in the fruits of their endeavors. The work of the two councils, the freshman and sophomore, are in themselves abundant testimony of the energy and devotion that have marked the lives of both of the associate secretaries during the past nine months. In fact our whole program has been so intense as frequently to cause the secretary to feel that the wick was being burnt at both ends. One's best work is not done under mental and physical strain. We are now trying to arrange our program so we may have more time for study and meditation.

By far the largest part of our program is carried on through the efforts of our Cabinet and our two Councils.

FRIENDLY RELATIONS COMMITTEE

One of the most interesting ouf our committees has always been the Friendly Relations. This has been a very difficult year for the chairman in charge of this work. So many of our foreign students are new, and there has not as yet been discovered any leader among them. Heretofore we have always had one or two outstanding students upon whom we could depend for cooperation in promoting work among them. Through the cooperation of our committee, seventeen foreign students visited the state penitentiary. Eighteen of them attended the Rotary Club banquet given to them annually. Every two weeks the International Club has held a meeting, and though the attendance has not been large, the meetings have been worth while. On different occasions three foreign students have been enlisted to speak. Through the cooperation of this committee 214 students were present at the annual International Banquet. Three foreign and three negro students are planning to go to Geneva. A number of personal calls have been made upon the foreign students. Work with them must increase, for they are our most promising potential missionaries.

EMPLOYMENT

Employment this year has been universally scarce. One thousand one hundred and ninety-two jobs have been given to students. The money value

of this employment is $58,967.60. More than two hundred men have been given summer work. During the Winter Quarter an employment survey was made, covering 2,275 men. The following interesting data were compiled from this survey:

	PER CENTS		
	FRESH.	SOPH.	ALL
Men who work during the school year	60	73	62
Men who want help in securing work during the summer	38	39	37
Men who must earn all their way through school	8	11	9
Men who must earn one-half of their way through school	15	17	16
Men who must earn one-third of their way through school	18	17	17
Men who work for their meals by waiting tables	8	9	8
Men who work for their meals by washing dishes	5	6	5
Men who work for their meals in other ways	6	9	7
Men who work for their rooms	4	6	5
Men who are working at odd jobs	21	22	20
Men who are engaged in some other kind of work	18	20	19
Men who own cars	13	21	16
Men who have had experience in sales work	44	42	42
Men who have had experience as camp leaders	21	20	20
Men who belong to fraternities	34	50	40
Men who come back to school after their first year			63
Men whose social life is limited by their work	22	30	26

Arts	715	*Cars*	
Commerce	539	Coupes	124
Engineering	511	Roadsters	96
Agriculture	198	Touring	68
All others	312	Sedan	68
Total No. of questionnaires	2,275		

CHURCHES AND CONFERENCES

Under the leadership of Charles Jenne, this committee has promoted two Go-to-Church Sundays. There has usually been an increase of 100 per cent in student church attendance on these occasions. The greatest difficulty has been in getting the pastors to set aside this particular day and to prepare sermons for students. For next year the dates for the Go-to-Church Sundays have already been set. This will facilitate greatly the promotion of student attendance at the churches.

Thus far twenty-nine delegates have paid registration fees for Lake Geneva. Before June 12, we hope to have five more. The enthusiasm for the conference this year has been very marked. Eighty students attended the annual Lake Geneva banquet, all of these paying for their dinners. Four delegates attended the State Officers Training Conference held at Delaware in April. Twenty-four attended the annual Setting-Up Conference held at Zanesville. The secretary wishes that more members of the Board might have been present for this occasion. It is a source of real inspiration to all others who attend. It would mean a great deal more to the students and to the Board if next year we might have more of our Board members there. More of these retreats are needed. They present a fine opportunity to study our work and to plan for the future. The only thing that keeps us from having more of them is money.

SOCIAL

The Social Committee does not by any means cover the social program of the Y.M.C.A. A great deal of this work is done by the Campus Fellowship

Committee and by the two Councils. However, under the auspices of the Social Committee, in cooperation with the Y.W.C.A., the following events were held: the Freshman Party at the beginning of the school year with an attendance of 1,200; the Christmas Jingle with an attendance of 300; the Christmas Sing, participated in by 80; Mothers' Day Tea, attended by 125; two other social events, sponsored by the Cabinet and the Y.W.C.A.

This does not begin to meet the social needs of our campus. When it is considered that 60 per cent of our students are not affiliated with groups and must therefore provide their own social life, one begins to realize just what a problem there is. It is the purpose of the Y.M.C.A. next year to give an increasing number of parties, that a larger number of our students may enjoy the privilege of social contacts.

SOCIAL SERVICE

The work of this committee does not compare favorably with that of last year's committee. Its chief work consisted in using five students as leaders of boys' groups throughout the city. The Christmas parties for underprivileged boys, and Christmas baskets and the Hospital Sings were omitted because there was not sufficient attention given to them by the chairman. One of our best workers will have charge of this part of our program next year, and a great improvement should follow.

EXPANSION

Perhaps the most outstanding of all our committee work has been that done by the Extension Committee, under the leadership of Wallace Hall. Assuming his duties January 30, after the failure of the previous chairman to function, Mr. Hall cooperating with Mr. Steinmetz has done by far the best work yet accomplished in this phase of our program. Nine different trips have been made this year to communities in the State. Fourteen different churches have been served and 4,875 people have been reached through the efforts of this committee. Three very distinct values come from this department of our program: the students themselves are given very valuable training, the young people whom they touch are benefited greatly, and the older people are given a different viewpoint from that commonly held about our great State University. Next year an even greater number of churches will be reached, and more students will be enlisted in the service. We hope to make several of these trips joint events with the Y.W.C.A.

FIRESIDE SESSIONS

After a profitable change in chairmanship, this committee, under the leadership of Russ McNeil, was very successful in its program. Forty-one fraternities participated in the Fireside Sessions program, as did 65 leaders and 15 committee members. The average attendance at each session was 20. The total number of meetings was 166 and the total attendance 3,320. Plans for next year call for four meetings on one theme in from 15 to 25 distinct groups in the fall and a series of eight meetings with as many groups as possible in the winter. We also hope to extend both of these opportunities to our unorganized group through our Campus Fellowship Committee about which more will be told later.

HANDBOOK COMMITTEE

Three thousand handbooks were distributed again this year. Whereas the first volume of our present publication cost the Y.M.C.A. $200.00 in addition to the advertising, the present book realized a profit of $50.00 over all expenses, including that of mailing it. The editorial and business staff is now working on next year's publication. Approximately 30 freshmen are giving time to this endeavor.

JUVENILE COURT

Cooperating with the city Juvenile Court, 15 committee men have been working throughout the year with 25 boys, taking them to games and shows and in general being pals to them. This work has been under the leadership of Willard Scott.

CAMPUS FELLOWSHIP

This committee has cooperated with Pomerene Hall, the Y.W.C.A. and other campus organizations in promoting 25 parties this year. The attendance of these parties has grown from 30 to 100 and 150. So interested have the students been in them that it has been necessary for anyone wishing to attend to sign up two weeks in advance of the party. Earl Lautenschleger, who has been chairman of this committee, has been a very faithful and interested worker and through his own devotion enlisted ten men in his work. This committee next year plans to continue these parties and will probably institute similar ones at the Ohio Union. It also desires to promote an organization among the unaffiliated men to institute Fireside Sessions among them, promote intramural athletics—to provide, in fact, more of the life that is enjoyed by the organized groups.

FRESHMEN COMMITTEE

This committee has been working with Mr. Thomas on the Freshman Council. It is now working on the Freshman Camp for next fall, at which time 154 of the leaders of the Freshman Class will be brought together to discuss the issues of campus life.

SPEAKERS COMMITTEE

The work of this committee has been limited largely by the finances available for its program. Jerome Davis visited our campus in the winter and addressed approximately 500. The Symposium on Religion held in April was by far our most ambitious speakers' program. Four different speakers were used over a period of two days, reaching a total of 3,000 students.

SOPHOMORE COUNCIL

This group counseled by Mr. Steinmetz has promoted six social events with a total attendance of 1,160. Two retreats have been held by the officers of the group. Meeting every Wednesday night, this group has been a very significant force in our movement. It has provided practically all of the new chairmen for next year's cabinet. There has been a marked increase in the interest of these men in the work of the Association. They have adopted their own Constitution and have adopted a ritual for the installation of the officers. Eighteen plaques were awarded those who merited distinct praise for their

services. It is upon this group that we shall therefore count very largely for the promotion of our work next year, not only as chairmen of our committees but as committee members as well.

FRESHMAN COUNCIL

Five social events were promoted by the Freshman Council, with a total attendance of 900. Twenty-two weekly meetings were held with an average attendance of 52 and a total attendance of 1,144. Twenty-two executive committee meetings were held with an average attendance of 15 and a total attendance of 550. Ten speakers addressed the Council on different occasions. Two retreats were held with a total attendance of 33. Fifty-eight men were installed into the Sophomore Council and 29 Freshman Council keys were awarded for distinctive services. Other events promoted by the Freshman Council follow: the reading of "The Fool" by Walter C. Gran, at which only 75 were in attendance and which resulted in a deficit of $50.00, borne by the Freshman Council members individually; nine weekly discussion groups held on Sunday afternoons. The first of them, addressed by Sherwood Eddy, was attended by 350; the other eight averaged 20 each. A party was held for the foreign students at which 60 were in attendance. Forty men participated in the finance clean-up drive, collecting $110.00. Fourteen of the Freshmen are going to the Lake Geneva Conference. Thirty attended a trip to the penitentiary and 25 to the Feeble-Minded Institute. Throughout the year, approximately 50 visits have been made to freshmen in the hospitals.

As time goes on the secretary sees greater and greater significance in the voluntary Christian activities of these scores and scores of undergraduates. Something supremely magnetic must lie at the heart of a movement to command the leadership of such men as our movement commands. One does not have to search long for this attraction. It lies in the personality of Jesus. And as one works with youth who gives themselves so generously and so sincerely, one cannot but be glad for the privilege that is his. Constantly the fact is impressed upon him that here is a challenge that calls upon the best that he has. So it is in the reflection of this same spirit that has characterized all the secretaries that this report is presented to the Advisory Board.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

General Secretary, MARY F. LICHLITER

SUMMER OF 1928

Summer Secretary, MISS FRANCES GILLINGHAM

EMPLOYMENT

Total number of positions..... 25
Total amount earned.....$289.75

SOCIAL

Together with the Y.M.C.A. and the Pomerene Board, the Y.W.C.A. sponsored ten Saturday evening dances which were very successful.

EDUCATIONAL

Assisted the Y.M.C.A. in conducting tours to interesting plants and institutions in and around Columbus. Such projects of intellectual and educational nature make the strongest appeal to the Summer students.

The work of the Y.W.C.A. has a threefold purpose: to bring to the University women opportunities for self-development, self-adjustment, and broadening contacts. Because it is a growing organization, each year sees new progress; and, though progress cannot be measured in specific terms, we submit to the University a report of the activities carried on by the Y.W.C.A. during the fiscal school year of 1928-29. For convenience that for the Summer Quarter is given separately.

AUTUMN, WINTER, AND SPRING QUARTERS

EMPLOYMENT

Miss Ruth Lloyd continued as Employment Secretary, with Miss Corinne Johnson as her Assistant during the Winter and Spring quarters. The Employment Committee was active in extension work, interviewing managers of retail stores, tea-rooms, business firms, and banks, informing them of the employment service rendered by the Y.W.C.A. A great number of responses resulted from this project. Although the Y.W.C.A. will continue the employment work during the summer months, by recent order of the President, the Dean's Office will take over this service at the beginning of Fall Quarter.

	Amount earned	*Number of positions*
Fall Quarter	$6,409.95	212
Winter Quarter	3,626.75	102
Spring Quarter	5,736.80	121

NOTE: These statistics do not include the large number of students who have carried over their positions secured through this office in former years.

SOPHOMORE COUNCIL

This group was a creation of this year, and was unusually successful as a pioneer enterprise. It consisted of all sophomore women serving on Senior Cabinet Committees, and its purpose was to hold as a unit those students

interested in the Y.W.C.A., in this way preventing the usual scattering that comes after freshman year. The Council met twice a month for fellowship and discussion.

CONFERENCE COMMITTEE

Because the Geneva Delegation is always such a definite nucleus for the work of the Y.W.C.A., a plan was formed which, it was hoped, would keep this group together on their return to the Campus, stimulated and inspired by their recent contacts with the leadership and inspiration of Geneva. Thus the Conference Chairman was appointed the Delegation Leader, so that instead of merely planning for the business details of the group, she would have a specific responsibility of leadership during the conference and the following year.

FRESHMAN CABINETS

Approximately a hundred freshmen were reached through these miniature cabinets. Plans have been worked out to go into execution next fall for a specific freshman drive during the week-end following Freshman Week, after a tea which will introduce them to the work of the Y.W.C.A. Through this plan it is hoped that a great number of freshmen will be reached, especially those to whom it is felt that the Y.W.C.A. could fill a unique need in their University life. The work of this year culminated in a week-end house party at Camp Wildwood with Dean Thomas Graham of Oberlin as the speaker.

INTERRACIAL AND WORLD FELLOWSHIP COMMITTEES

A forward step was taken in connection with interracial relations. Understanding that the policy of having both an Interracial Committee and a World Fellowship Committee was simply differentiating between the white, black, and yellow races in a way that was at variance with the spirit of the Y.W.C.A., yet realizing that there were a large proportion of colored students who felt that there was no place for them except in the Interracial Committee, we endeavored, by doing away with this committee to encourage their active interest in all the other committees. In addition, we appointed to the Senior Cabinet a colored representative to the Interracial Council of the University, who would be by virtue of this position co-chairman with the World Fellowship Chairman. In this way we felt that we had gained in having the personal contact with the colored students of the University, and that they in turn would feel a tangible connection with the work of the Y.W.C.A. in a way that would not set them apart as different. The goal toward which we are working is that the chairman of the World Fellowship Committee may come to be anyone who possesses the qualities of leadership and friendliness, irrespective of color or race. As a result of this merger, the work of the World Fellowship Committee was greatly quickened and stimulated by the wider aspect of the racial problems and interests presented.

CAMPUS FELLOWSHIP COMMITTEE

This committee had no publicity. It worked quietly, its purpose being to make real friendships with those girls who had not yet found a place for themselves in the life of the University. This was done, as it could only be done, on a small scale, and informal afternoon teas were usually the first medium of fellowship. The success of this committee depends solely on the generous

and unselfish attitude of the members, and there were several serving this year who gave themselves enthusiastically and genuinely to those girls needing their friendship. The Committee also worked in cooperation with the Pomerene Crew in the Saturday evening dances.

STUDENT INDUSTRIAL PROJECTS

The project which was the mutual concern of both the Student Industrial Committee and the Industrial Projects Committee was that of Workers' Education. The first work of the year was the educating of the Committees themselves as to the particular project. Then in corroboration with Miss Heipp, the Industrial Secretary at the Columbus Y.W.C.A., a program was drawn up to further its advancement. This program was divided between the Columbus Industrial Committee and the University Industrial Committee, the University girls helping in the tutoring of the industrial group picked by the central committee, and in addition contributing to the expenses of the girl who was chosen this year to go to the Wisconsin Summer School of Industrial Workers. A student representative was also sent to the Student Industrial Conference at Camp Gray, Michigan.

SOCIAL COMMITTEE

This committee rendered the usual service to those students who lacked the natural activities of university life. By parties among themselves, through the Freshman Mixer, the Ice-Breaker, and the Christmas Jingle, with teas for freshman women, for Mother's Day and for High School Seniors (these latter in conjunction with other campus organizations), the Committee successfully met this need of the campus for fellowship.

SETTLEMENTS AND COMMUNITY SERVICE

A hundred and fifty hours weekly of service were given to the Godman Guild, the Gladden Community House, the South Side Settlement and St. Pauls during the year. At the same time groups of girls were giving entertainments every two weeks in the various nearby city and county Homes, such as the tuberculosis hospitals, the Florence Crittenden Home, the Juvenile Detention Home, and the County Infirmary.

BIBLE AND CHURCH RELATIONS COMMITTEES

These were discussion groups, giving to the few who felt the need an opportunity to go back in their thought to the sources of religion and attempt to find in them their application to the everyday life of the university student.

OTHER COMMITTEES

These held the usual inspiration with their mood of worship against a background of music and quiet. The theme followed this year was "The Full and Creative Life: Learning to Be at Home in Our World." This was carried to the realms of personality, foreign relations, religion, relations with men and women, the home, industry, and the field of appreciation. In conjunction with the W. S. G. A. and Pan-Professional, under the sponsorship of Dean Esther Allen Gaw, the series of Vocational Guidance meetings were held during the month of February with Miss Anna Stare of Columbus on "Women in

Business," Mrs. Susan Reban on "Women in Law," and Mrs. Milner, Dean of Women at Earlham College, on "Women in Personnel Work." After each of the meetings small discussion groups were held relating to specific types of work for women, under the leadership of prominent women in those particular fields in Columbus.

MEMBERSHIP

Membership was held at approximately 1,300.

APPOINTMENTS

To the Y.W.C.A. Student Conference at Lake Geneva, thirty-six delegates; Summer Secretary for the first six weeks, Miss Corinne Johnson; for the last six weeks, Miss Margaret Nesbitt; General Secretary for the Year 1929-1930, Miss Naomi Baker.

POLICY

The policy of the retiring Cabinet was one of merger and reduction in order to bring a closer unity and greater challenge of work. Thus the Alumnae Committee and the Discussions Committee were dropped from the Cabinet as they did not meet a definite need on the Campus. The similarity of work in the Bible and Church Relations Committee resulted in the formation of a *Religious Study Committee.* An *Arts Committee* was organized, combining in itself the smaller committees of Dramatics and Posters. Because the work of the Student Industrial Committee was included in that of the Industrial Projects Committee, it was thought wiser to merge these into the *Student Industrial Projects Committee.* The Employment Committee will continue as a *Vocational Committee,* working with the Dean of Women on her Vocational projects.

Service is the motive back of each piece of work attempted by the Y.W.C.A. Because of this motive, consecrated leadership is necessary, and the student response to this challenge has been splendid.

UNIVERSITY NEWS BUREAU

Director, J. E. POLLARD

I have the honor to submit herewith the annual report of the News Bureau for the year 1928-29.

Public interest and confidence in the Ohio State University reached new heights during the year 1928-29. This might not be demonstrable from cold figures, but there is evidence to support it on every hand. This condition is a natural result of the continued growth of the University in enrollment and in outreach to the state in practical ways.

It is not too much to believe, however, that the continued dissemination of official, authentic, and interpretive information by and about the University has something to do with this condition. The News Bureau, an outgrowth of the Stadium Campaign of 1920, is the chief medium by which this end is achieved. Maintained originally by the Athletic Department, the Bureau eventually was taken over by the University in the belief that it was not only a proper but a necessary function of the University to keep the people of the state informed of its work, its policies, its program, and its personnel.

The year just ended has been notable for the volume of information distributed about the University and its personnel through the News Bureau. The number of "stories" or articles prepared and distributed by the Bureau, chiefly to the press, was 4,406, as compared with 2,557 for the year 1927-28, and as compared with 1,796 for the year 1926-27. Most of this increase was in the greater number of releases dealing with individual students, sent to the papers of their home towns. No campus happening of any legitimate interest to any important group of students was overlooked or ignored.

It has been a perennial observation of the present director that for all that is done in the way of legitimate University publicity, the possibilities have not begun to be exhausted. Each year sees a better organization of the sources of University news, a finer cooperation of faculty, administration, and students, and a keener appreciation of the work. With the other demands upon his time, growing out of the work of the office, however, it would seem that the limit has been about reached in the volume of information one man can turn out.

Besides the regular publicity incident to announcements, special events, and the normal occurrences on the campus, the Bureau has been called on for assistance in preparing a number of special publications during the year. Among these were pamphlets or programs in connection with the Alice Mary Arps Foundation, the school of home economics, the Alfred Dodge Cole Memorial Library, the dedication of Gibraltar Island, the biennial budgetary request of the University to the General Assembly, and the annual Freshman Week. There is a growing demand upon the Bureau for work of this sort which is apt to increase with the years.

The year just ended has been particularly notable for the number of important events that have taken place at the University. Greater interest always attaches to the University in a legislative appropriation year, such as this was. There was great public interest in the revival of the custom of granting honorary degrees, of the award for the second time in the University's history of the Joseph Sullivant medal. Other events capitalized for public interest were the ninth annual Education Conference, the annual Veterinary Conference, the

semi-annual meeting of the American Chemical Society held on the campus, the annual convention of the Society for the Promotion of Engineering Education also held on the campus, the second annual Freshman Week, the annual Scholarship Night, and, naturally, the three quarterly convocations and the fifty-second annual commencement. In the preparation and distribution of news about these events, the Bureau enjoyed the cordial cooperation of all concerned.

Greater use was made than ever before since the establishment of the Bureau of newspaper "mats" or matrices to illustrate developments concerning the University. It is the intention to make still greater use of the pictorial presentation of University news as time goes on and as circumstances permit.

The great part of the output of the Bureau went as heretofore to the daily and weekly press. The emphasis in this distribution is to see primarily that all of the Ohio newspapers are supplied regularly with authentic, timely, and interesting information concerning the University. In this connection, the newspapers are supplied as follows: to the daily press two letters a week for mid-week and Sunday release, special releases as circumstances warrant, supplemented by releases through the press associations; to the weekly press of the state one news letter a week, supplemented by special releases as occasion warrants. In this way the Bureau maintains both direct and indirect contact with about two hundred daily newspapers in the state and with some four hundred weekly and semi-weekly papers.

The appended table gives some idea of the distribution of the releases on the basis of their content:

	General	*Personal*		*Sports*
Agriculture	28		Football	55
Alumni	74		Basketball	23
Commerce and Administration	3		Baseball	6
Commerce Extension	7		Relays	21
Bureau of Business Research	87		Track	20
Commencement	31	788	Stadium	2
Debating	23		Tennis	3
Education	91		Cross-country	2
Engineering	23		Wrestling	10
Enrollment	15	1,338	Miscellaneous	70
Freshmen and Freshman Week	11	369		
Faculty	43			
Graduate School	5			
Honors	24	172		
Journalism	17	15		
Law	2			
Military	8	192		
Organizations	4	388		
Pharmacy	1			
Publications	2			
Radio	157			
Student Activities	9	55		
Veterinary Medicine	5			
Y.M.C.A.	2			
Miscellaneous	205			
	877	3,317		212
		877		
Total, general releases		4,194		4,194
GRAND TOTAL RELEASES				4,406

Besides his regular duties, the Director of the Bureau also has served during the year as a member of the advisory board of the University Y. M. C. A., as a member of the University radio committee, as an advisory member of the Freshman Y. M. C. A. Handbook committee, and in other ways.

The effectiveness of such an office is largely dependent upon the cooperation and good will of those with whom its work deals. In this respect the Bureau has been fortunate during the year. It would be impossible to give credit to all those to whom credit is due, but the director is particularly grateful for the continued cordial assistance, among others, of the president's office; of Mr. Carl E. Steeb in his dual capacity as business manager of the University and secretary of the board of trustees; of Miss Edith Cockins, registrar, and her assistants; of Joseph A. Park, Dean of Men; of J. L. Morrill, Junior Dean of the College of Education; and of Director L. W. St. John, of the department of athletics.

RESIDENCE HALLS

House Superintendent, MRS. E. E. PROUT

Since Neil Hall was leased, September 1, 1928, the University has three Halls for women. Neil Hall is a large building with accommodations for two hundred and sixty-five girls. This gives the University living quarters for women students as follows:

Oxley Hall	Mack Hall	Neil Hall	Total
76	105	265	446

CHANGES AT NEIL HALL

As soon as we started the quarter at Neil Hall we realized several changes had to be made for the comfort of the girls and convenience of the help.

1. The hot water tank in the building, which was not large enough for the needs of the household, was replaced by a large one at the first of the year.
2. There were no quarters for the servants. Five rooms were made on the north side of the trunk room, three as lounging rooms, two for showers and lavatories. Thus the white and the colored help were provided with quarters.
3. A much-needed door was put in leading from the kitchen to furnace room.
4. A door was cut between store room and trunk room.

Only those living and working in the Hall know what a help and convenience these four changes make. Our sincere thanks go to the Trustees, Mr. McCracken, and his staff for the prompt cooperation. We needed also a place for recreation. The large front room known as the Grill was then transformed into a pleasant recreation room. Two check rooms and two rest rooms for men and women were made at the southeast end of the Hall, leaving a large spacious room for the family.

NEEDS

As soon as we are able we hope to have this room decorated and furnished so that it will more fully meet our needs. The south wing of the Hall has many rooms that have never been painted; these will need papering very soon.

A grand piano would afford much pleasure for the girls.

OXLEY HALL

Last summer after the first term of summer school, hot and cold water was installed in the single and double rooms and in the middle room of suites at Oxley Hall. Three showers were installed. This is a great improvement and greatly appreciated by the girls.

I feel I must give a word of praise to our University plumbers as they did the work. The men were quiet, neat, industrious workers and the job was completed on the day before promised. This means a great deal in a family like mine where students have to live while the work is going on.

The dining-rooms and parlors were redecorated in a two-tone stipple which makes a dormitory look much more like a residence than an institution. The girls were delighted with this.

SOCIAL LIFE

Each quarter both Oxley Hall and Mack Hall had their usual Hall dance.

The Christmas party, where servants, help, staff, and family make merry, is always a success.

The Faculty party this year was held at Neil Hall in the Recreation Room. The Faculty joined with us in praise over having such a lovely place to hold our Faculty party.

The Senior formal dinner dance was a beautiful party.

The Annual Dinner, at which time the gavel is given from the outgoing President of the Hall's Government Association to the incoming President, was a large party and many Faculty members were present.

The Senior Farewell was a dinner and theater party this year, and the Neil Hall seniors joined with the Oxley and Mack Hall seniors at Oxley. This was a happy party.

Any Friday or Saturday night groups of girls may arrange a party and have the use of the parlors.

Twice or three times a quarter on Sunday afternoon, instead of the regular Sunday evening lunch, a tea is given in the Oxley parlors or the Neil Recreation room. The family may ask in friends.

This social life I feel is very essential, and I encourage the girls to come to as many things as possible. It provides a cultural training which all need.

EDUCATIONAL

During the Winter Quarter, fireside meetings are held. This year there were seven meetings. Leading members of our faculty and men and women from the city were the speakers. It is hard to get all of our family to come to these meetings, but those who do are in sympathy with the movement.

One room has been set aside in each hall, known as the U. N., where the Dean of Women, or some member from her staff, holds a meeting one night a week for one hour with the girls, to council with them. We hope for big things from this idea this coming year.

SICKNESS

This year was unusual in that we had only two cases of severe illness among the girls. Yet there were more withdrawals on account of sickness among the students, or because parents or family were ill, than any year since I have been connected with the Halls.

ENROLLMENT OF HALLS 1928-29

	Oxley	Mack	Neil			Total
Autumn Quarter			Students	Nurses	Business Women	
	76	105	198	26	8	413
Withdrawals	1	1	5			7
Winter Quarter						
	70	98	107	20	6	238
Withdrawals	6	7	28			41
Spring Quarter						
	65	102	143	13	9	342
Withdrawals	1	2	4			7

When Neil Hall was leased we continued the contract made with the former management to house thirty nurses, more or less, and some business women.

USE OF HALLS

Since January 1929, every Friday evening from eight to nine o'clock, a group of college students who have made arrangements through the Dean's office, have used the Recreation Room at Neil Hall for a dance.

The Nurses have held two dances in the Recreation Room at Neil Hall this Spring Quarter.

This year we have accommodated two colleges and two organizations by housing their conventions.

Last August sixty-five members of the 4-H Club were cared for during Fair week.

This June, during the week of June 16 to June 23, members from the Engineers' Convention were accommodated in Mack and Neil Halls.

The same week a group of Social Welfare Workers were accommodated at Neil Hall.

The week of June 24, the Theta Sigma Phi Sorority was accommodated at Mack Hall.

We are very glad to be of service to these organizations and realize it is more pleasant for them to be at one place than scattered in private homes or at hotels down town.

My staff and servants need the highest praise for the excellent support they give me when we undertake the housing of a convention. They do all in their power to make it a success.

Besides this, at all times my staff and corps of servants give willingly of their time and energy for the success of the Halls, and a splendid spirit of cooperation exists on the part of all members.

I thank the Trustees for their interest and support, and especially President Rightmire and Mr. Steeb for their sympathetic interest and confidence in me and my staff this year.

DEPARTMENT OF MILITARY SCIENCE

COLONEL G. L. TOWNSEND

1. *Faculty*

(a) The following changes have been made in the Faculty since the last annual report:

Major Alvin C. Miller, M.C., transferred to Fort McDowell, California; relieved from duty here on November 4, 1928.

Captain Levie W. Foy, Inf., transferred to duty in China; relieved from duty here on August 15, 1929.

Captain John Hopkins, Inf., transferred to Buffalo, N. Y.; relieved from duty here on June 11, 1929.

First Lieutenant Harvey H. Smith, Inf., transferred to Philippine Islands; relieved from duty here on August 15, 1929.

(b) Replacements:

Major Harry H. VanKirk, M.C., vice Major Miller.

Captain Leslie R. Forney, Inf., vice Captain Foy.

Captain John M. Whayne, Inf., vice Captian Hopkins.

Captain Richard M. Winfield, Inf., vice Lieutenant Smith.

2. *Enrollment*

1927-28.—Autumn Quarter, 3,700; Winter Quarter, 2,980; Spring Quarter, 3,017.

1928-29.—Autumn Quarter, 3,596; Winter Quarter, 3,394; Spring Quarter, 2,875.

This is a decrease of 2,81 per cent over last year's initial enrollment.

3. *Graduates*—The following members completed the Advanced Courses in Military Science and were commissioned in the Officers' Reserve Corps in their respective branches:

	Autumn Quarter	*Winter Quarter*	*Spring Quarter*	*Total*
Infantry	2	0	44	46
Field Artillery	5	2	23	30
Signal Corps	0	1	6	7
Medical Corps	0	0	16	16
Dental Corps	0	0	34	34
Veterinary Corps	0	0	7	7
Total	7	3	130	140

4. *Physical Facilities.*—The housing of the Military Department is still in an extremely bad condition as reported in previous years. The need of an adequate Armory is more pressing than formerly.

5. *General Situation*

(a) The Optional Drill League started a campaign in April against required Military drill in the under classes, succeeding in getting a small majority of the Student Senate to vote for optional drill. There are indications that the movement will be again started following the opening of the next school year. I have not seen any disposition on the part of the student body to lend much support to the movement.

(b) The cooperation of the other departments of the University commented upon in last year's report has continued throughout the present year, and has assisted materially in the general progress made.

SUMMARY OF THE FINANCIAL STATEMENT

FOR THE YEAR ENDING JUNE 30, 1929

(A complete detailed Financial Report of the year ending June 30, 1929, is printed in separate form and may be had upon application.)

OFFICE OF THE BOARD OF TRUSTEES
THE OHIO STATE UNIVERSITY

Hon. Julius F. Stone
Chairman of Board of Trustees
The Ohio State University

COLUMBUS, OHIO, July 16, 1929

DEAR SIR:

The financial statement presented herein is that part of the Annual Report of the Board of Trustees to the Governor of Ohio, which shows the financial condition of The Ohio State University for the fiscal year ended June 30, 1929.

CARL E. STEEB,
Secretary

CONSOLIDATED STATEMENT

INCOME AND EXPENDITURES

Cash Balance July 1, 1928		$ 601.404.03
Total Income for year	$ 7,998,230.54	
Less funds paid to State Treasurer and not available for the University	4,683.99	
Total Available Income	7,993,546.55	
Total Expenditures for year	7,900,771.71	
Balance for the year		92,774.84
Cash Balance June 30, 1929		$ 694,178.87

ASSETS AND LIABILITIES

Current Assets	$ 5,718,163.06	
Investment Assets	1,163,033.60	
EDUCATIONAL PLANT:		
Value of Lands, Buildings, and Equipment	17,188,011.17	
Contingent Liabilities		4,772,721.31
Investment Liabilities		1,163,033.60
Capital Account		18,133,452.92
	$24,069,207.83	$24,069,207.83

INCOME

INCOME FROM STUDENTS:		
Tuition and incidental fees	$ 730,238.75	
Special fees, degrees, etc.	12,138.00	
Gymnasium locker rent	10,220.00	$ 752,596.75
INCOME FROM ENDOWMENTS:		
For general purposes	13,045.88	
For designated purposes	7,972.73	21,018.61
FEDERAL AID:		
Land-grant Act of July 2, 1862	31,450.60	
Land Grant—Virginia Military Lands	13,585.11	
Additional Aid—Acts of August 30, 1890, and March 4, 1907	50,000.00	
Agricultural Extension Work—Acts of May 8, 1914, July 24, 1919, and January 17, 1928	259,917.62	354,953.33

STATE AID:		
Current Expenses	3,417,627.51	
Capital Improvements	817,982.32	
Agricultural Extension	321,633.86	4,557,243.69
GIFTS FOR CURRENT EXPENSES:		
For designated purposes	33,820.68	33,820.68
INCOME FROM OTHER SOURCES:		
Agricultural Extension		
Boys' and Girls' Club Work	6,481.35	
County Agents' Funds from Counties	193,178.90	
Farmers' Institutes	15,575.00	
Rotary	729.00	215,964.25
Departmental Earnings		
Applied Optics	4,443.64	
Brace Shop	6,415.50	
Clinic	3,111.17	
Dental Clinic	27,353.08	
Dispensaries	1,431.84	
Engineering Experiment Station	525.00	
Farm Rotary	101,357.36	
Lantern	16,757.25	
Laundry	859.13	
Ohio Biological Survey	286.99	
Starling-Loving Hospital	108,306.68	
Veterinary Clinic	5,429.58	276,277.22
For Designated Purposes		
Class of 1923—Interest on Gift	259.75	
Class of 1925—Interest on Gift	184.34	
Class of 1926—Interest on Gift	144.34	
Class of 1927—Interest on Gift	57.54	
Class of 1928—Interest on Gift	20.00	
Commutation of Uniforms	30,036.63	
*Miscellaneous Sales	4,675.99	
State Board of Education (Smith-Hughes)	40,922.32	
*Virginia Military Lands	8.00	76,308.91
DORMITORIES AND DINING HALLS:		
Home Economics Cafeteria	97.59	
Pomerene Cafeteria	48,854.77	
Residence Halls for Women	154,217.89	
Stone Laboratory Dining Hall	855.56	204,025.81
COMMERCIAL ACCOUNTS:		
Photograph Department	4,581.84	
Telephone Account	22,068.63	
University Press—Bookstore	102,281.69	
University Press—Print Shop	137,126.95	
Warehouse	418,329.25	684,388.36
ATHLETIC DEPARTMENT:	821,632.93	821,632.93
Total Income		7,998,230.54
Less funds (*) paid to State Treasurer and not available for the University		4,683.99
Total Available Income		$ 7,993,546.55

CLASSIFIED EXPENDITURES

EXPENSES:		
Salaries	$ 3,966,865.42	
Boys' and Girls' Club Work	6,915.70	
Coal and gas	86,118.56	
Employes and extra labor	189,042.71	
Feed for livestock	28,091.50	
Field work, Agricultural Extension	131,345.12	
Food supplies	64,798.99	
Freight and cartage	8,632.08	
Incidentals	52,416.07	
Laboratory and educational supplies	109,015.70	
Materials and general supplies	174,516.25	
Printing	75,364.84	
Refunds, Military Uniforms	26,669.01	
Repairs to equipment	28,712.98	
Scholarships and student aid	15,804.61	
State Teachers' Retirement System	36,611.02	
Stationery and office supplies	91,595.78	
Telephone and telegraph	23,032.60	
Travel	24,084.39	
Water	25,887.48	
Total expenses		$ 5,165,520.81
EQUIPMENT:		
Apparatus	37,974.48	
Books	39,222.33	
Furniture and fixtures	70,873.66	
Livestock	4,445.12	
Machinery, tools, and appliances	32,186.46	
Total Equipment		184,702.05
LANDS	44,607.22	
NEW BUILDINGS	60,937.68	
ADDITIONS TO BUILDINGS	709,346.57	
IMPROVEMENTS	19,865.33	
Total		834,756.80
DORMITORIES AND DINING HALLS:		
Pomerene Cafeteria	45,261.77	
Residence Halls for Women	144,213.32	
Total Dormitories and Dining Halls		189,475.09
COMMERCIAL:		
Photograph Department	971.27	
Telephone Account	21,889.33	
University Press—Bookstore	102,034.36	
University Press—Print Shop	149,059.98	
Warehouse	429,480.54	
Total Commercial		703,435.48
ATHLETIC DEPARTMENT		822,881.48
Total Expenditures		$7,900,771.71

BALANCE SHEET JUNE 30, 1929

ASSETS

Current Assets:	
Cash in bank and on hand for current expense	$ 694,178.87
Deposits	454.00
Auditor of State, Special Appropriations	4,772,721.31
Warehouse (Supplies per inventory)	250,808.88
Investment Assets:	
State Treasurer (irreducible debt of the State)	1,119,483.69
Ohio State University Treasurer	43,549.91
Educational Plant:	
Lands, Buildings, and Equipment	17,188,011.17
Total Assets	$24,069,207.83

LIABILITIES

Current Liabilities:	
Special State Appropriations	$ 4,772,721.31
Endowment Funds:	
Funds for General Purposes, Invested	968,598.23
Funds for Special Purposes, Invested	194,435.37
Debt and Capital Account:	
Bonds or Mortgages Against Plant	
Capital Account	18,133,452.92
Total Liabilities	$24,069,207.83

GIFTS FOR GENERAL AND DESIGNATED PURPOSES

The following items are turned into the State Treasury to the credit of Rotary Funds for use by the University:

Akron Alumnae Association	$ 100.00
A gift to establish a Student Loan Fund	
Aluminum Company of America	1,000.00
A gift to establish a Fellowship in the College of Engineering	
American Institute of Steel Construction	750.00
A gift to establish a Fellowship in the College of Engineering	
Bailey Meter Company	750.00
A gift to establish a Fellowship in the College of Engineering	
The Barrett Company	2,000.00
A gift to establish a Fellowship in the College of Engineering	
Board of Christian Education	1,600.00
A gift to establish Fellowships in the College of Education	
Broadcasting Station	990.80
A gift from the *Columbus Dispatch* for broadcasting the Indiana-Ohio State Football game	
Chemistry Students	284.88
A gift for the purchase of bronze tablets designating the names of the laboratories in the New Chemistry Building	

Class of 1928	1,023.54
A gift for the purchase of a bronze statue of Dr. W. O. Thompson	
Columbus Scholarship Society	620.00
A gift to establish a Student Loan Fund	
Detroit Alumnae Association	200.00
A gift to establish a Student Loan Fund	
E. I. du Pont de Nemours Company	750.00
A gift to establish a Fellowship in the College of Engineering	
Educational Conference	425.00
An amount donated by various individuals for the program of the Educational Conference	
Home Economics Nursery	1,568.90
An amount donated by various individuals for the purchase of equipment for the Home Economics Nursery	
Journalism Scholarship Fund	160.00
A gift to establish a Student Loan Fund	
National Electric Light Association	5,000.00
A gift for the Rural Electrification Project	
National Agricultural Limestone Association	300.00
A gift for the support of a Fellowship in the Department of Soils	
Nelsonville Brick Company	752.31
A gift for research work in the Department of Ceramics	
New York City Alumnae Association	125.00
A gift to establish a Student Loan Fund	
Ohio Ceramic Industries Association	1,000.00
A gift for research work in the Department of Ceramics	
Ohio Salt Company	900.00
A gift to establish a Fellowship in the College of Engineering	
Payne Study and Experimental Fund	2,066.66
A gift for research work in the College of Education	
Presser Foundation	250.00
A gift for a scholarship in the College of Education	
Pullman Scholarship Fund	250.00
A gift to establish a Scholarship Fund	
Sigma Xi Society	170.00
A gift for research work in the College of Engineering	
Solvay Sales Corporation	750.00
A gift to support the Calcium Chloride Fellowship	
Structural Clay Tile Association	9,408.09
A gift for research work in the College of Engineering	
Synthetic Nitrogen Products Corporation	400.00
A gift for research work in the College of Engineering	
Springfield Alumnae Association	100.00
A gift to establish a Student Loan Fund	
University Women's Club of Pittsburgh	75.00
A gift to establish a Student Loan Fund	
University Women's Club of Columbus	50.50
A gift for work in Adult Education	
Total	$33,820.68

APPENDIX I

BOARD OF TRUSTEES—1928-29

	Date Original Appointment	Term Expires
*Julius F. Stone, Columbus	March 17, 1925	May 13, 1930
Lawrence E. Laybourne, Springfield	May 14, 1921	May 13, 1931
Harry A. Caton, Coshocton	May 14, 1915	May 13, 1932
Mrs. Alma W. Paterson, Columbus	March 27, 1924	May 13, 1933
Herbert S. Atkinson, Columbus	March 17, 1925	May 13, 1934
Egbert H. Mack, Sandusky	December 12, 1922	May 13, 1935
John Kaiser, Marietta	February 25, 1915	May 13, 1936

* Julius F. Stone served also as a member from May 13, 1909 to March 21, 1917.

OFFICERS OF THE BOARD

Julius F. Stone.....*Chairman*
Mrs. Alma W. Paterson.....*Vice-Chairman*
Charles F. Kettering.....*Treasurer*
Carl E. Steeb.....*Secretary and Business Manager*

APPENDIX II

ADMINISTRATIVE OFFICERS

For the year ending June 30, 1929

George W. Rightmire.....*President*
Office—Administration Building, UN-3148; Campus 312.
Residence—Ohio State University Campus, UN-3148; Campus 274.

William Oxley Thompson.....*President Emeritus*
Residence—55 Woodland Avenue, FR-4000.

Carl E. Steeb.....*Secretary of the Board of Trustees and Business Manager*
Office—Administration Building, UN-3148; Campus 332.
Residence—190 West Eleventh Avenue, UN-4732.

Edith D. Cockins.....*Registrar, University Editor and Secretary of University Faculty*
Office—Administration Building, UN-3148; Campus 314.
Residence—1580 Guilford Road, UN-9635.

Bland L. Stradley.....*University Examiner*
Office—Administration Building, UN-3148; Campus 412.
Residence—Canal Winchester, No. 71.

George W. Eckelberry.....*Assistant to the President*
Office—Administration Building, UN-3148; Campus 380.
Residence—1844 West Third Avenue, RA-2819-W.

Katherine A. Vogel.....*Executive Clerk*
Office—Administration Building, UN-3148; Campus 312.
Residence—1040 Elmwood Avenue, UN-8784-J.

Charles A. Kuntz.....*Comptroller*
Office—Administration Building, UN-3148; Campus 332.
Residence—265 Tulane Road, LA-3606.

FLORIS D. HANE.....*Cashier*
Office—Administration Building, UN-3148; Campus 371.
Residence—373 Thirteenth Avenue, WA-1054.

ESTHER A. GAW.....*Dean of Women*
Office—Pomerene Hall, UN-3148; Campus 480.
Residence—51 North Monroe Avenue, FR-1894.

JOSEPH A. PARK.....*Student Counselor*
Office—Administration Building, UN-3148; Campus 283.
Residence—1474 Doone Rd., UN-1559-J.

EMMA MCKINLEY PROUT.....*House Superintendent, Residence Halls*
Office and Residence—Mack Hall, UN-3148; Campus 264.

EDWARD S. DRAKE.....*Manager of Ohio Union*
Office and Residence—Ohio Union, UN-3148; Campus 359.

JAMES E. POLLARD.....*Director of News Bureau*
Office—Administration Building, UN-3148; Campus 491.
Residence—1143 Grandview Avenue, RA-1557-J.

WILLIAM C. MCCRACKEN.....*Chief Engineer and Superintendent of Buildings and Grounds*
Office—Service Building, UN-3148; Campus 428.
Residence—1778 North High Street, UN-2492.

RAY M. ROYER.....*Purchasing Agent*
Office—Administration Building, UN-3148; Campus 374.
Residence—1828 Arlington Avenue, UN-0918-W.

FRED E. JONES.....*Director of Stores and Receiving Department*
Office—Service Building, UN-3148; Campus 354.
Residence—255 Oakland Park Avenue, LA-3461.

JOSEPH N. BRADFORD.....*University Architect*
Office—Brown Hall, UN-3148; Campus 361.
Residence—55 East Oakland Avenue, WA-2251.

APPENDIX III

CHANGES IN FACULTY

NEW APPOINTMENTS

1928-29

Charles H. Ambler	Acting Professor	History
Herschel D. Arant	Dean	College of Law
Arthur E. Baggs	Professor	Fine Arts
Wallace R. Brode	Assistant Professor	Chemistry
Amy Bronsky	Assistant Professor	Principles of Education
Walter F. Bucheler	Assistant Professor	German
W. W. Charters	Professor and Director	Bureau of Educ. Research
Harry W. Cordell	Associate Professor	Business Organization
Joseph M. Cormack	Acting Professor	Law
Morgan C. Davies	Professor	Applied Optics
Lt. Bryan L. Davis	Assistant Professor	Military Science
Harvey H. Davis	Assistant Professor	School Administration
William A. P. Graham	Assistant Professor	Geology
Silas A. Harris	Professor	Law
Felix H. Helmrich	Assistant Professor	Animal Husbandry
Capt. M. L. McCreary	Assistant Professor	Military Science
Earl N. Manchester	Librarian	
Harlan J. Metcalf	Assistant Professor	Physical Education

Bernard S. Meyer	Assistant Professor	Botany
Bernhard F. Nordmann	Acting Assistant Professor	History
W. James Osburn	Professor	School Administration
Felix Payant	Professor	Fine Arts
Alvah Peterson	Professor	Zoology and Entomology
Maj. Samuel Randall	Assistant Professor	Military Science
Howard F. Seely	Associate Professor	Principles of Education
W. J. Shepard	Dean	College of Liberal Arts
Royall H. Snow	Assistant Professor	English
Maj. Harry H. Van Kirk	Assistant Professor	Military Science
Harry W. Vanneman	Acting Professor	Law
Herbert Wall	Professor	Music
Harvey Walker	Assistant Professor	Political Science
Oscar H. Williams	Associate Professor	School Administration
Laura Zirbes	Associate Professor	Principles of Education

PROMOTIONS IN RANK

1928-29

Rollo C. Baker	Assistant Professor to Associate Professor	Anatomy
Harold L. Borst	Instructor to Assistant Professor	Farm Crops
Edison L. Bowers	Instructor to Assistant Professor	Economics
Perry P. Denune	Instructor to Assistant Professor	Sociology
Walter E. Duffee	Instructor to Assistant Professor (Medical Examiner)	Physical Education
Esther A. Gilman	Instructor to Assistant Professor	Physical Education
Lawrence F. Hill	Assistant Professor to Associate Professor	History
Darwin A. Hindman	Instructor to Assistant Professor	Physical Education
Ralph A. Knouff	Assistant Professor to Associate Professor	Anatomy
Jakob A. O. Larsen	Assistant Professor to Associate Professor	History
Allen McManigal	Instructor to Assistant Professor	Engineering Drawing
J. Lewis Morrill	Instructor in Journalism to Junior Dean	College of Education
Herschel W. Nisonger	Professor of Agricultural Education to Junior Dean	College of Agriculture
Charles W. Reeder	Associate Professor Business Organization to Junior Dean	College of Commerce and Administration
Samuel Renshaw	Assistant Professor to Associate Professor	Psychology
Oscar D. Rickly	Instructor to Assistant Professor	Industrial Engineering
Robert O. Roseler	Instructor to Assistant Professor	German
L. Edwin Smart	Instructor to Assistant Professor	Economics
Grace Stewart	Instructor to Assistant Professor	Geology
Dorothy Sumption	Instructor to Assistant Professor	Physical Education
Lewis H. Tiffany	Assistant Professor to Associate Professor	Botany
William D. Turnbull	Professor of Engineering Drawing to Junior Dean	College of Engineering
Joseph C. Troutman	Secretary of the College of Liberal Arts to Junior Dean	College of Liberal Arts
William E. Warner	Assistant Professor to Associate Professor	Industrial Arts Education
William R. Wilson	Assistant Professor to Associate Professor	Psychology
Harold S. Wood	Instructor to Assistant Professor	Physical Education

APPENDIX IV

Which shows the number of professors, officers, teachers, and other employees, and the position and compensation of each, as required by Section 7947 of an Act passed May 29, 1915.

Name of Employee	*Position*	*Salary*
George W. Rightmire	President	$15,000.00
W. O. Thompson	President Emeritus	6,000.00
COLLEGE OF AGRICULTURE		
Alfred Vivian	Dean	7,500.00
True G. Watson	Secretary of the College	3,300.00
Ruth Eckert	Stenographer	1,200.00
Ruth G. Curry	Stenographer	1,200.00
Jane Allen Worthen	Stenographer	450.00
Frances Behyner	Stenographer	1,020.00
Helen Coleman	Stenographer	85.00
Helen V. Killworth	Stenographer	255.00
Phyllis Burkham	Stenographer	1,020.00
Alice C. Olds	Stenographer	340.00
Grace Trunick	Stenographer	1,020.00
Crystal Barker	Stenographer	1,020.00
Cecilia Ryan	Stenographer	540.00
Hazel Monett	Stenographer	480.00
Flo Bailey	Stenographer	480.00
Lena S. Howard	Stenographer	127.74
H. W. Nisonger	Junior Dean	5,000.00
Audrey L. Wiener	Stenographer	555.33
Ruth M. Landen	Stenographer	765.00
Irene Rodey	Stenographer	350.97
Ruby Pearl Evans	Stenographer	720.00
Myrtle Albaugh	Stenographer	630.00
Edith M. Switzer	Stenographer	414.29
Rose McCabe	Stenographer	249.33
AGRICULTURAL CHEMISTRY		
John F. Lyman	Professor	5,000.00
R. C. Burrell	Assistant Professor	3,300.00
E. F. Almy	Assistant Professor	3,000.00
John D. Guthrie	Assistant	600.00
Mrs. R. W. Powell	Assistant	900.00
Harold J. Deabold	Graduate Assistant	500.00
Maurice Rusoff	Student Assistant	150.00
AGRICULTURAL EDUCATION		
W. F. Stewart	Professor (12 months)	3,000.00
AGRICULTURAL ENGINEERING		
G. W. McCuen	Professor	3,800.00
C. O. Reed	Professor	3,575.00
Benton M. Stahl	Instructor	2,250.00
Walter Umbstaetter	Mechanic	1,650.00
John T. Miller	Mechanic	1,400.00
Norman W. Wilson	Graduate Assistant	750.00

ANIMAL HUSBANDRY

Carl W. Gay	Professor	6,500.00
D. J. Kays	Professor	4,500.00
J. S. Coffey	Professor	4,300.00
S. M. Salisbury	Professor	4,200.00
C. S. Plumb	Professor	4,000.00
F. H. Helmrich	Assistant Professor	2,400.00
E. E. Heizer	Graduate Assistant	740.00

ANIMAL HUSBANDRY—EMPLOYES

David M. Fyffe	Supt. of Live Stock	1,800.00
Robert Watson	Groom	1,800.00
John C. Thompson	Dairy Cattle Herdsman	1,800.00
William Franklin	Shepherd	1,440.00
Ray Garrett	Assistant Herdsman	1,320.00
George Robb	Laborer	1,320.00
Cecil Bayes	Herdsman	1,260.00
Jonathan Alban	Pavilion Groom	1,200.00
Caleb Randall	Laborer	1,200.00
B. L. Cunningham	Laborer	1,200.00
Alvin McAdow	Laborer	1,080.00
Hugh Robinson	Assistant Herdsman (student)	300.00
Albert Bell	Laborer	1,080.00
L. B. Bowers	Assistant Dairy Herdsman	1,170.00
Glenn W. Salisbury	Laborer	60.00
Andrew Armstrong	Assistant Shepherd	1,080.00
F. H. Helmrich	Laborer	300.00
Cecil Koger	Swine Herdsman	1,260.00
Howard Constable	Laborer	160.00
Arthur B. Evans	Laborer	400.00
James Grandstoff	Laborer	70.00

BOTANY

E. N. Transeau	Professor and Director of the Botanical Garden	5,500.00
H. C. Sampson	Professor	4,500.00
W. G. Stover	Professor	4,000.00
J. H. Schaffner	Research Professor	4,500.00
A. E. Waller	Associate Professor and Curator of Botanical Garden	4,000.00
L. H. Tiffany	Associate Professor	3,500.00
Bernard S. Meyer	Instructor	2,025.00
Lois Lampe	Instructor	2,500.00
Glenn W. Blaydes	Instructor	1,650.00
Wendell H. Camp	Instructor	1,950.00
Sherman Humphrey	Instructor	1,900.00
Pearle E. Williams	Instructor	1,700.00
Robert Findlay	Assistant	1,800.00
C. W. Horton	Assistant	1,000.00
Hiram F. Thut	Graduate Assistant	800.00
Robert B. Gordon	Graduate Assistant	800.00
George H. Brewer	Graduate Assistant	276.00
Everitt Miller	Graduate Assistant	500.00
O. Neal Liming	Graduate Assistant	332.00
F. W. Van Ohlen	Graduate Assistant	500.00
Paul J. Kramer	Graduate Assistant	332.00
George H. Brewer	Graduate Assistant	150.00
Ica Marks	Graduate Assistant	220.00
Kenneth E. Wright	Graduate Assistant	165.00
Dolores Dehus	Graduate Assistant	165.00

DAIRYING

Oscar Erf	Professor	4,500.00
R. B. Stoltz	Professor	4,250.00

H. D. Drain	Assistant Professor	2,950.00
J. O. Kimbrough	Laborer	1,080.00
John Lengacher	Assistant Professor	400.00
Harold G. Albery	Instructor	400.00
H. D. Drain	Assistant Professor	983.33
Henry J. Apple	Student Assistant	210.00
J. Daniel Rinehart	Student Assistant	133.33

FARM CROPS

J. B. Park	Professor	3,400.00
C. J. Willard	Professor	2,440.00
H. L. Borst	Assistant Professor	1,575.00
Marion T. Meyers	Instructor	872.50
Joseph B. McLaughlin	Assistant	600.00
E. W. Hardies	Graduate Assistant	500.00

FARM OPERATIONS

Thomas D. Phillips	Assistant Professor and Superintendent Farm	3,600.00
John DeWitt	Mechanic	1,560.00
Lloyd Blackburn	Mechanic	1,400.00
Charles Pugh	Head Teamster	1,320.00
M. Peck	Teamster	1,200.00
John Long	Laborer	1,200.00
S. N. Bell	Laborer	1,200.00
H. L. Bosart	Laborer	1,200.00
A. M. Farley	Laborer	1,200.00
Everett Clark	Laborer	1,200.00
Charles Ferguson	Laborer	1,160.00
J. R. Remy	Laborer	1,200.00
Merle Day	Laborer	1,260.00
Louis Randall	Laborer	1,080.00

FRANZ THEODORE STONE LAKE LABORATORY

Raymond C. Osburn	Director	500.00
F. H. Krecker	Assistant Director	500.00
A. W. Lindsey	Assistant Professor of Entomology	350.00
L. H. Tiffany	Assistant Professor	350.00
M. E. Stickney	Instructor in Botany	350.00
S. R. Williams	Instructor in Zoology	350.00
Theodore Phillips	Caretaker	1,500.00
Earnest Miller	Assistant Caretaker	1,320.00

HOME ECONOMICS

Faith R. Lanman	Professor	3,900.00
Grace G. Walker	Professor	4,000.00
Hughina G. McKay	Professor	2,700.00
June F. Kennedy	Assistant Professor	3,000.00
Edith F. Deadman	Assistant Professor	3,111.11
Eve E. Turnbull	Assistant Professor	2,500.00
Alice Donnelly	Assistant Professor	1,800.00
Eunice Ryan	Instructor	2,491.67
Elsie S. Minton	Instructor	2,500.00
Alma Heiner	Instructor	2,300.00
Elizabeth C. Cooley	Instructor	1,700.00
Ottilie Rohe	Instructor	400.00
Marian J. Evans	Assistant	1,400.00
Glenna Schlitt	Assistant	675.00
Pauline W. Snyder	Graduate Assistant	900.00
Agnes Skinner	Assistant	500.00

Beatrice A. Turner	Student Assistant	135.00
Margaret W. Black	Instructor	1,950.00
Medora B. Grandprey	Instructor	1,687.50
Doris Ufer	Graduate Assistant	540.00
Bertha M. Baker	Graduate Assistant	540.00
Ernestine H. Miller	Graduate Assistant	306.00
Florence Harris	Assistant	150.00
Grace King	Assistant	150.00
Wilma Bonar	Student Assistant	135.00
Bernice Hann	Student Assistant	135.00
Ruth Dinkel	Student Assistant	15.00
Mary Zehner	Student Assistant	120.00
Elsie S. Minton	Nutrition Adviser	400.00

HORTICULTURE AND FORESTRY

W. Paddock	Professor	4,800.00
L. M. Montgomery	Professor	3,700.00
Alfred C. Hottes	Professor	1,750.00
N. W. Sherer	Assistant Professor	2,750.00
F. G. Charles	Assistant Professor	2,580.00
John Morrison	Assistant (12 months)	2,000.00
J. E. Schanck	Assistant (12 months)	1,400.00
Joseph Haigh	Laborer	1,320.00
William Patterson	Laborer	1,080.00
Ian Morrison	Laborer	1,100.00

POULTRY HUSBANDRY

E. L. Dakan	Professor	5,500.00
Alden R. Winter	Assistant Professor	3,000.00
Arthur Bayes	Supt. Poultry Plant	2,000.00
C. E. Florea	Laborer	1,200.00
Ernest Humphreys	Laborer	300.00
V. D. Chamberlin	Laborer	845.16
E. L. Dakan	Professor	1,222.22
Clarence J. Schumacher	Laborer	900.00
Forrest Warne	Laborer	354.84

RURAL ECONOMICS

J. I. Falconer	Professor	2,750.00
C. E. Lively	Assistant Professor	2,850.00
C. G. McBride	Assistant Professor	2,787.50
F. L. Morison	Instructor	1,750.00
Nora M. Friel	Stenographer	960.00
Leighton G. Foster	Assistant Professor	1,125.00

SOILS

Firman E. Bear	Professor	3,666.00
George M. McClure	Assistant Professor	3,000.00
Earl E. Barnes	Assistant Professor	1,000.00
Charles L. Thrash	Instructor	1,500.00
George M. McClure	Professor (Special Contract)	667.00

ZOOLOGY AND ENTOMOLOGY

Raymond C. Osburn	Professor	5,500.00
Herbert Osborn	Research Professor	5,000.00
W. M. Barrows	Professor	4,250.00
F. H. Krecker	Professor	4,250.00
D. M. DeLong	Professor	4,812.50

W. J. Kostir	Assistant Professor	4,000.00
C. H. Kennedy	Assistant Professor	4,000.00
David F. Miller	Instructor	2,150.00
W. E. Dunham	Instructor	1,950.00
John W. Price	Instructor	1,925.00
Joseph N. Miller	Instructor	1,675.00
Lydia A. Jahn	Assistant	900.00
James B. Mack	Assistant	900.00
Lelia A. Ewers	Assistant	900.00
Fred W. Fletcher	Assistant	900.00
Frank M. Semans	Assistant	900.00
Horatio C. Mason	Graduate Assistant	500.00
Paul H. Johnson	Graduate Assistant	332.00
Barbara E. Metz	Graduate Assistant	500.00
Donald Borror	Graduate Assistant	500.00
J. C. Hambleton	Instructor	500.00
James B. Mack	Assistant	300.00
Frank R. Elliott	Assistant	300.00
John W. Price	Assistant	650.00
Alvah Peterson	Professor	3,750.00
Edward N. Warner	Graduate Assistant	500.00
Amos E. Badertscher	Graduate Assistant	500.00
Edward M. Becton, Jr.	Graduate Assistant	500.00
John A. Miller	Assistant	900.00
William A. Squires	Assistant	650.00
Walter H. Dove	Assistant	650.00
John T. Bigham	Graduate Assistant	500.00
Joe W. Howland	Graduate Assistant	500.00
Elmer W. Beck	Graduate Assistant	332.00
John F. Harper	Graduate Assistant	500.00
Birely J. Landis	Graduate Assistant	164.00
Esther R. Zurcher	Graduate Assistant	500.00
Grace Townsend	Graduate Assistant	166.65
Betty Jane Skinner	Graduate Assistant	166.65
Craig W. Eagleson	Graduate Assistant	166.66

COLLEGE OF LIBERAL ARTS

W. H. Siebert	Acting Dean	1,875.00
Celia Roberts	Assistant	200.00
Rosemary Kiernan	Stenographer	95.00
Margaret Smith	Stenographer	1,080.00
Helen L. Crew	Stenographer	1,080.00
Alice Kelley	Stenographer	1,020.00
J. C. Troutman	Junior Dean	5,000.00
Walter J. Shepard	Dean	6,466.67
Roberta Abernethy	Assistant to Dean	1,650.00
Alyce Moore	Typist	1,080.00
Howard L. Hamilton	Secretary of the College	2,750.00
Mary Collicott	Assistant to Dean	275.00
Bessie Workman	Stenographer	1,080.65
Esther Waddell	Stenographer	1,039.50
Ruth Palomo	Assistant	1,000.00
Romaine J. Hamilton	Stenographer	583.33

ASTRONOMY

E. S. Manson	Professor	4,000.00
Earl L. Williams	Instructor	2,750.00
Byron L. Fox	Student Assistant (2 months)	100.00
Lester L. Roth	Observatory Assistant (10 months)	300.00
Howard Wm. Eck	Graduate Assistant	350.00

CLASSICAL LANGUAGES

M. B. Ogle	Professor	5,875.00
George M. Bolling	Professor	5,750.00
A. W. Hodgman	Professor of Latin	4,500.00
W. S. Eldon	Professor	5,250.00
Charles P. Iwanicki	Instructor	2,500.00
Stewart G. Nease	Assistant	200.00

ENGLISH

J. V. Denney	Professor	6,000.00
G. H. McKnight	Professor	5,000.00
J. R. Taylor	Professor	5,000.00
W. L. Graves	Professor	5,000.00
C. E. Andrews	Professor	5,000.00
E. L. Beck	Professor	5,500.00
Milton Percival	Professor	4,500.00
V. A. Ketcham	Professor (part time)	1,800.00
E. W. Wiley	Associate Professor	4,000.00
Harold R. Walley	Assistant Professor	3,000.00
Sada Harbarger	Assistant Professor	3,000.00
Harlan Hatcher	Assistant Professor	2,834.00
J. F. Craig	Assistant Professor	2,800.00
Royall H. Snow	Assistant Professor	2,250.00
William C. Frierson	Instructor	2,500.00
Herman Miller	Instructor	3,000.00
James F. Fullington	Instructor	2,333.32
J. Harold Wilson	Instructor	3,055.55
Edith Sniffen	Instructor	2,500.00
Gertrude L. Robinson	Instructor	2,450.00
Robert S. Newdick	Instructor	1,875.00
Bert Emsley	Instructor	2,150.00
Clyde S. Nesbitt	Instructor	1,950.00
Miles M. Graham	Instructor	1,950.00
Tom B. Haber	Instructor	1,950.00
Herbert Edwards	Instructor	1,800.00
James Chalfant	Instructor	1,800.00
Florence Denton	Instructor	1,800.00
James G. Ross	Instructor	2,175.00
Marion H. Landis	Instructor	1,800.00
George C. Camp	Instructor	1,350.00
Mary R. Rhodes	Instructor	1,500.00
Mary A. Hitchcock	Instructor	1,500.00
Lawrence E. Snyder	Instructor	1,500.00
Bryan C. Kerr	Instructor	1,500.00
Doris P. Buck	Instructor	1,500.00
E. C. Glanders	Assistant	1,000.00
Donald W. Riley	Graduate Assistant	500.00
Robert L. Blair	Graduate Assistant	500.00
Grace Stevenson	Graduate Assistant	500.00
Robert M. Estrich	Graduate Assistant	500.00
Ann Whitmer	Graduate Assistant	500.00
Esther Sullivan	Graduate Assistant	500.00
Robert Price	Graduate Assistant	500.00
David Maurer	Graduate Assistant	500.00
Roscoe F. Schaupp	Graduate Assistant	500.00
Robert P. Ewing	Graduate Assistant	200.00
Thearle Aubrey Barnhart	Graduate Assistant	165.00
Hubert C. Howard	Graduate Assistant	165.00
Roscoe F. Schaupp	Graduate Assistant	165.00
Roy N. Owsley	Instructor	450.00
Dorothy Jane Bardo	Graduate Assistant	500.00
Clara Blackburn	Graduate Assistant	500.00

John Wm. Markland	Graduate Assistant	166.00
Wilson R. Dumble	Graduate Assistant	500.00
James Carroll	Graduate Assistant	500.00
Lloyd M. Hoff	Graduate Assistant	666.00
Homer W. Widener	Graduate Assistant	500.00
Grace Jameson	Graduate Assistant	500.00
Morris Lopper	Graduate Assistant	500.00
John F. Royer	Graduate Assistant	165.00
Elizabeth Best	Graduate Assistant	165.00
Geo L. McBride	Graduate Assistant	165.00

GEOLOGY

J. A. Bownocker	Professor	1,666.00
J. E. Carman	Professor and Curator, Acting Chairman	4,500.00
Edmund M. Spieker	Associate Professor	4,125.00
Waldo S. Glock	Instructor	2,575.00
P. B. Stockdale	Instructor	3,225.00
Grace Stewart	Assistant Professor	2,487.50
Radcliffe H. Beckwith	Instructor	600.00
Harold E. Thomas	Instructor	2,000.00
Wilbur Stout	Lecturer	300.00
Robert H. Mitchell	Graduate Assistant	500.00
E. Shillhahn	Graduate Assistant	500.00
Dorothy Simpson	Student Assistant	33.00
Elizabeth B. Mohr	Student Assistant	100.00
Frank G. Parris	Student Assistant	100.00
Richard Morgan	Student Assistant	100.00
H. D. Squires	Instructor	1,800.00
Wm. A. P. Graham	Assistant Professor	2,625.00
Robert H. Nesbitt	Student Assistant	100.00
Charles K. Clark	Student Assistant	100.00
Irwin C. Colman	Student Assistant	67.00

GERMAN

M. B. Evans	Professor	5,500.00
B. A. Eisenlohr	Professor	4,000.00
H. Kurath	Professor	4,000.00
May Thomas	Assistant Professor	2,350.00
R. O. Roseler	Assistant Professor	3,250.00
Walter Gausewitz	Instructor	2,237.50
John P. Wenninger	Instructor	1,650.00
Karl M. Duldner	Graduate Assistant	1,100.00
Elinor A. Rossbach	Graduate Assistant	900.00
Frances W. Werking	Reader	187.50
Walter Bucheler	Assistant Professor	2,625.00
Harold O. Basilius	Reader	187.50
Alexander W. Erlen	Reader	187.50
Herman Kauber	Reader	187.50

HISTORY

Carl Wittke	Professor	6,000.00
G. W. Knight	Professor Emeritus	2,000.00
Edgar H. McNeal	Professor	5,500.00
G. A. Washburne	Professor	4,000.00
H. C. Hockett	Professor	4,500.00
A. H. Noyes	Assistant Professor	3,750.00
J. A. O. Larsen	Associate Professor	3,666.66
Lawrence F. Hill	Associate Professor	3,625.00
Paul H. Clyde	Assistant Professor	750.00
Eugene Roseboom	Instructor	3,187.50

F. P. Weisenburger	Instructor	2,375.00
Paul Lewinson	Instructor	2,000.00
John D. Brite	Instructor	2,000.00
Herbert Wender	Instructor	1,500.00
Raymond W. Bixler	Assistant	1,000.00
W. J. McNiff	Assistant	1,000.00
Randolph C. Downes	Assistant	1,000.00
Edward G. Mason	Assistant	1,000.00
Maurice C. Latta	Assistant	1,000.00
William M. Newman	Instructor	500.00
Charles H. Ambler	Acting Professor	5,000.00
Bernhardt F. Nordmann	Acting Assistant Professor	2,250.00
Gertrude Lawrence	Instructor	666.66
Bertha Josephson	Reader	100.00
Wilbur H. Siebert	Research Professor	4,125.00
Gertrude Lawrence	Assistant	1,000.00
Bertha E. Josephson	Reader	187.50
Ruth E. Penney	Reader	187.50
Harriett P. Lattin	Reader	187.50
William H. McClure	Reader	187.50

PHILOSOPHY

J. A. Leighton	Professor	1,625.00
George H. Sabine	Professor	5,625.00
A. R. Chandler	Professor	4,000.00
A. E. Avey	Professor	4,000.00
William A. Shimer	Instructor	2,912.50
Donald H. Daugherty	Instructor	1,750.00
William H. Reither	Instructor	1,950.00
Ralph Slattery	Assistant	1,325.00

POLITICAL SCIENCE

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F. W. Coker	Professor	5,500.00
Harvey Walker	Assistant Professor	2,625.00
E. A. Helms	Instructor	2,687.50
Frank Paddock	Instructor	562.50
Robert T. Pollard	Instructor	2,000.00
Francis R. Aumann	Instructor	1,500.00
Earl E. Warner	Graduate Assistant	349.00
Matthew J. Smith	Graduate Assistant	250.00
Abe Gertner	Student Assistant	100.00

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Robert E. Rockwood	Professor	5,250.00
Olin H. Moore	Professor	5,000.00
Claude E. Anibal	Associate Professor	4,333.33
G. Oscar Russell	Associate Professor and Director of Phonetic Lab.	4,375.00
Santiago Gutierrez	Assistant Professor	3,500.00
Robert Fouré	Assistant Professor	3,500.00
Alexander H. Schutz	Assistant Professor	3,500.00
Theodore E. Hamilton	Assistant Professor	3,000.00
Gertrude Walsh	Instructor	2,500.00
Dwight F. Donan	Instructor	2,500.00
Emily Schons	Instructor	2,200.00
Helen Fouré	Instructor	2,200.00
Harry Russell	Instructor	2,200.00
Dorothy Porter	Instructor	1,650.00

Bertha P. Arthur	Instructor	2,000.00
Dwight M. Brooks	Instructor	1,650.00
Erwin H. Price	Instructor	1,650.00
José Palomo	Assistant	2,000.00
P. B. Woods	Assistant	1,800.00
Leslie Rosemond	Assistant	1,500.00
Ralph H. Walz	Assistant	1,500.00
Stanley Howell	Assistant	1,350.00
Isolde Henninger	Assistant	900.00
Mary Kiefer	Assistant	350.00
Erwin H. Price	Assistant	600.00
Lura M. Hay	Assistant	600.00
Helen May Kramer	Assistant	1,500.00
Andre L. Vigneras	Instructor	1,500.00
J. B. Goddard	Student Assistant	90.00
M. E. Zupko	Student Assistant	150.00
S. E. Ludena	Student Assistant	25.00
J. A. Gollan	Student Assistant	50.00
Demetrio A. Cabarga	Student Assistant	300.00
J. M. Gonzales	Student Assistant	8.00

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Claire Harmeyer	Assistant to Dean	2,500.00
Nell Gainer	Stenographer	1,800.00
Bertha C. Caley	Stenographer	1,200.00
Mary Fodey	Stenographer	1,200.00
Katherine Uhrig	Stenographer	1,200.00
Dorothy Garrett Suydam	Stenographer	1,080.00
Esther Wilhelm	Stenographer	1,020.00
Mary Tobin	Stenographer	551.13
Ruth Schumacher	Stenographer	226.67
Alice Heer	Clerk (Telephone Operator)	960.00
C. Wells Reeder	Junior Dean and Associate Professor of Marketing	3,750.00
J. Marie Defenbaugh	Stenographer	573.33
Charlotte Huston	Stenographer	441.29
Ruth Cotterman	Secretary to Junior Dean (Stenog.)	453.57
Alice Wolfe	Stenographer	160.00

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J. B. Taylor	Associate Professor	4,000.00
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R. S. Wilcox	Assistant Professor	3,437.50
D. M. Shonting	Instructor	2,500.00
Dallas S. Bolon	Lecturer	2,500.00
W. D. Wall	Lecturer	800.00
Josephine Lowrie	Assistant	300.00
O. E. Thomas	Instructor	1,500.00
George Daverio	Assistant	750.00
Harrison W. Wilder	Assistant	750.00

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Harold H. Maynard	Professor Marketing	5,000.00
William M. Duffus	Professor	5,000.00
Felix E. Held	Professor Economics and Business Administration	4,500.00
Charles A. Dice	Professor Banking	4,250.00
Willis Wissler	Professor Ind. Management	2,500.00
Montgomery E. Pike	Associate Professor Business Law	3,600.00

C. W. Reeder	Associate Professor Marketing	1,125.00
Theodore N. Beckman	Assistant Professor Marketing	3,750.00
H. H. Shively	Assistant Professor Marketing	375.00
W. Mason Smith	Instructor	2,250.00
Donald C. Power	Instructor	2,750.00
William R. Kauffman	Instructor	433.32
Marvin L. Fair	Instructor	2,150.00
Elvin F. Donaldson	Instructor	1,650.00
Tracy E. Thompson	Lecturer	2,600.00
Cary W. Bowers	Assistant	1,000.00
Ralph B. Alspaugh	Instructor	2,812.50
H. W. Cordell	Associate Professor Marketing	3,000.00
Edmund M. Yantes	Instructor	1,875.00
Corliss L. Parry	Instructor	1,875.00
Henry John Bittermann	Instructor	2,062.50
Enid B. Francis	Reader	150.00
Richard Gordon	Reader	150.00
Cloyd S. Steinmetz	Reader	200.00
Don D. Prosser	Reader	200.00
Carlton Schnell	Reader	150.00
Dorothy Klotz	Reader	50.00

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H. F. Walradt	Professor	4,500.00
L. E. Smart	Assistant Professor	3,000.00
Edison L. Bowers	Assistant Professor	2,875.00
Louise Stitt	Instructor	2,687.50
Virgil Willit	Instructor	2,666.66
Robert D. Patton	Instructor	1,875.00
R. H. Rowntree	Instructor	1,500.00
Joseph J. Spengler	Instructor	1,500.00
John D. Blanchard	Assistant	1,341.00
Ralph L. Dewey	Instructor	1,458.33
David S. Prosser	Instructor	1,500.00
J. M. Whitsett	Assistant	1,500.00
Elmer Lee Beeler	Reader	66.67
Margaret Bargar	Reader	50.00
Elmer Lee Beeler	Assistant	1,233.00
Paul G. Minneman	Assistant	166.67
Jean F. Lewinson	Assistant	1,000.00
George Thielman	Reader	300.00
E. S. Kennedy	Reader	300.00
Louis Levine	Reader	300.00
H. T. Clift	Reader	300.00
C. W. Schnell	Reader	66.00
K. C. Sommer	Reader	150.00

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Benjamin F. Lemert	Instructor	1,312.50
Dwight E. Roller	Assistant	1,000.00
Alfred J. Wright	Instructor	1,725.00
Webster L. Davis	Assistant	834.00
Albert F. Cameron	Assistant	666.00

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D. C. French	Reader	150.00
Raymond J. Zettler	Reader	150.00
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Stanley W. Schellenger	Editor Lantern	100.00
Herbert Wise	Business Manager Lantern	500.00
Herbert Wise	Business Manager Lantern	100.00
Norval N. Luxon	Instructor	2,250.00

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Perry P. Denune	Assistant Professor	750.00
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Sol D. Ozer	Assistant	1,066.00
J. S. Kegg	Assistant	1,066.00
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Llewellyn A. Cramer	Assistant	800.00
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Richard C. Steinmetz	Assistant	800.00
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Viva B. Boothe	Assistant Professor (Special 9 months)	2,000.00
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George C. Paffenbarger	Instructor	2,400.00
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Louis E. Reif	Instructor	1,200.00
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Wanda Rittenhouse	Stenographer	1,200.00
Anne C. Beeman	Clerk	1,140.00
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Frances Andrews	Stenographer	1,140.00
Alice Savage	Stenographer	1,140.00
Pauline C. Egbert	Stenographer	1,140.00
Marjorie C. Renz	Stenographer	1,140.00
Lydia Ann Day	Stenographer	1,080.00
Lillian Shera Edwards	Stenographer	1,080.00
Rowena Richardson	Stenographer	1,080.00
Rosamond B. Frater	Stenographer	408.00
Sylvia Morris	Stenographer	680.80
Audrey Inboden	Stenographer	1,020.00
Margaret McCloud	Stenographer	1,020.00
Mildred McCullour Ballard	Stenographer	850.00
Verna Spicer	Stenographer	1,020.00
Faye M. DuBois	Stenographer	1,200.00
Celia Tachauer	Stenographer	960.00
Jessie A. Charters	Assistant Professor	4,000.00
Amalie K. Nelson	Instructor	250.00
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Vera Norton	Assistant to Dean	1,766.66
J. L. Morrill	Junior Dean	3,750.00
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Martha B. Mayer	Assistant to Junior Dean	1,125.00
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Marjorie Matchette	Clerk	585.00
May A. Galloway	Stenographer	810.00
Virginia Scott	Stenographer (Student)	399.19
Thelma Thornhill	Stenographer	513.87
Elizabeth Caslow	Research Assistant	500.00
Edith E. Lewis	Stenographer	59.50
Myrtle Donaldson	Stenographer	109.67

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Ruth Seeger	Bibliographical Assistant	1,700.00
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Florence J. Morgan	Research Assistant	1,000.00
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William K. Wilson	Research Assistant	1,000.00
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Daisy B. Grenzow	Editorial Assistant	461.11

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Guy B. Wiser	Assistant Professor	2,612.50
Mabel M. DeBra	Instructor	2,750.00
Thomas Church	Instructor	2,500.00
Will Rannells	Instructor	2,375.00
Ted C. Lewis	Instructor	2,175.00
Elusina Lazenby	Instructor	1,925.00
Elizabeth Walker	Instructor	1,750.00
Hoyt L. Sherman	Instructor	1,312.50
Felix Payant	Professor	600.00
Will Rannells	Instructor	444.45
Mabel DeBra	Instructor	305.55
Felix Payant	Professor	3,750.00
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H. Leslie Moody	Assistant	100.00

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Florence Kamber	Assistant	850.00
Clara V. Nuber	Assistant	200.00
Frank J. Wiess	Student Assistant	500.00

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Isabel A. Wilson	Instructor	500.00
Walter Grimm	Assistant Professor	800.00
Mary B. Scanlon	Assistant Professor	700.00
Samuel T. Burns	Assistant Professor	500.00
George F. Strickling	Instructor	350.00
Vera W. Downing	Instructor	200.00
Eleanor Anawalt	Accompanist	125.00
Herbert H. Wall	Professor	3,750.00
Lela Hardy	Instructor	1,500.00
Hilda Dierker	Part-time Instructor	500.00
Rachel Way	Part-time Instructor	1,000.00
Charlotte M. Lingo	Student Assistant	300.00

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H. B. Alberty	Associate Professor	4,312.50
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N. S. Maddox	Instructor	2,600.00
Roslyn L. Davies	Assistant	1,500.00
V. T. Thayer	Professor	2,000.00
Allie Hines	Assistant Professor	1,300.00
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Philip W. L. Cox	Professor	800.00
J. E. Talbot	Professor	800.00
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Paul Stansbury	Assistant	250.00
R. Ray Scott	Assistant	250.00
Howard F. Seely	Associate Professor	4,500.00
Laura Zirbes	Associate Professor	1,687.50
J. Stanley Gray	Instructor	1,500.00
Franklin H. McNutt	Instructor	1,332.00
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Ethel Mukerji	Instructor History D.S.	450.00
Alta B. Chase	Instructor Mathematics D.S.	450.00
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Charlotte A. Keefe	Instructor English	450.00
Helen Weist	General Assistant	400.00
L. E. Bixler	Assistant	1,000.00
Ralph W. Cordier	Assistant	500.00
Frank Weiss	Assistant	500.00
O. J. Hill	Assistant	700.00
Clive M. Koon	Assistant	500.00
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Harold E. Burtt	Professor	5,000.00
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William R. Wilson	Associate Professor	4,750.00
Samuel Renshaw	Associate Professor	4,125.00
A. Sophie Rogers	Assistant Professor	3,250.00
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Albert L. Henderson	Instructor	2,500.00
Kai Jensen	Instructor	2,375.00
Harold Gullickson	Instructor	2,000.00
Alvhh Lauer	Instructor	2,000.00
John T. Seaton	Instructor	2,000.00
Willard L. Valentine	Instructor	1,500.00
Ruth V. Johnson	Instructor	1,425.00
Albert Kurtz	Instructor	1,850.00
Paul E. Fields	Instructor	1,125.00
William H. Thompson	Instructor	1,125.00
Helen Morrill	Instructor	900.00
Orvis C. Irwin	Instructor	250.00
David Bidwell	Instructor	1,000.00
I. Lynn Hampton	Assistant (12 months)	2,500.00
Zoe E. Leatherman	Assistant	2,500.00
Harold A. Edgerton	Assistant	2,500.00
Brian Tomlinson	Assistant	2,000.00
T. E. Newland	Assistant	2,000.00

Harold V. Gaskill	Assistant	1,500.00
F. Hilles Lumley	Assistant	950.00
Dorothy Postle	Assistant	221.00
R. J. Wherry	Assistant	500.00
Buford Johnson	Professor	800.00
W. S. Miller	Professor	750.00
J. R. Kantor	Assistant Professor	750.00
Harold A. Edgerton	Assistant	250.00
Clyde W. Gleason	Instructor	625.00
L. Raines	Instructor	625.00
H. J. Peterson	Instructor	500.00
Amalie K. Nelson	Instructor	375.00
Karl C. Pratt	Instructor	375.00
H. J. Arnold	Instructor	300.00
Bert A. Nash	Instructor	806.89
Edith Peck	Instructor	750.00
W. C. Beasley	Instructor	1,125.00
Lucille Russell	Clerk	1,151.61
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Dael Wolfe	Laboratory Assistant	950.00
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George R. Mursell	Assistant	500.00
Rosalia Fisher	Assistant	500.00
Theodore W. Forbes	Graduate Assistant	500.00
Elsie McKibben	Graduate Assistant	277.77
Juanita Lilliedale	Assistant	250.00
John Wenrich	Graduate Assistant	250.00
Mary Christine Gatewood	Graduate Assistant	250.00

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L. H. Munzenmayer	Graduate Assistant	600.00
J. J. Lowden	Graduate Assistant	700.00
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C. C. McCracken	Professor	1,666.67
R. L. Morton	Professor	1,500.00
H. P. Smith	Professor	1,500.00
F. R. Rogers	Professor	1,500.00
George F. Zook	Professor	1,200.00
C. B. Glenn	Assistant Professor	900.00
J. G. Collicott	Professor	350.00
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W. J. Osburn	Professor (Special)	3,000.00
Harvey H. Davis	Assistant Professor (Special)	1,500.00
Cecelia Krakoff	Assistant	200.00
William R. Smittle	Graduate Assistant	200.00
Ralph W. Ogan	Assistant	1,200.00
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F. L. Simmons	Instructor	750.00
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Louise Zieske	Assistant	525.00

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Mildred DePue	Stenographer	1,080.00
Roxanna Rader	Stenographer	1,080.00
Effa Harm	Stenographer	1,080.00
Anna M. Scobie	Stenographer	1,080.00
Mina Kennedy	Stenographer	1,020.00
Alberta Williams	Stenographer	1,020.00
Catherine Luff	Stenographer	1,020.00
Ada Riggin	Stenographer	960.00
Elizabeth R. Grube	Stenographer	118.71
Edith Horwitz	Stenographer	960.00
Thelma Thornhill	Stenographer	240.00
Elizabeth Nincehelser	Stenographer	480.00
W. D. Turnbull	Junior Dean	5,000.00
Robertine Pobst	Stenographer	849.03
Annabell Thompson	Stenographer	746.67
Olga A. D'Ascanio	Stenographer	645.16

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William Shereard	Clinical Assistant	300.00
R. A. Hare	Clinical Assistant	300.00

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Galen F. Oman	Assistant Professor	2,600.00
Ralph M. Line	Student Assistant	300.00
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Allan J. Drugan	Assistant (12 months)	1,500.00
Harley J. McKee	Instructor	1,500.00

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Robert J. Coleman	Announcer	2,500.00
Dorothy Leffel	Stenographer	960.00
Arthur B. Waltermire	Assistant	125.00

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John Lysatt	Technician	1,000.00

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Robert C. Kintner	Assistant	1,100.00
Anthony George	Assistant	900.00
Hazel Zwayer	Assistant	793.00
George Zinzalian	Assistant	889.00
Mary Wing Robb	Assistant (12 months)	500.00

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Cecil E. Boord	Professor	4,500.00
Jesse E. Day	Associate Professor	4,500.00
Wesley G. France	Associate Professor	4,250.00
Wallace R. Brode	Assistant Professor	2,625.00
Marion Hollingsworth	Assistant Professor	3,000.00
Rollin F. Conaway	Special Assistant	1,500.00
Crayton K. Black	Special Assistant	1,500.00
Justin L. Bussies	Special Assistant	1,500.00
Joseph W. Sutliff	Assistant	1,000.00
Warner J. Merrill	Assistant	777.00
Daniel E. Strain	Assistant	1,222.00
Marion M. Stiers	Assistant	1,000.00
Maryan P. Matuszak	Assistant	777.00
Joseph B. Littman	Assistant	1,000.00
James A. Funkhouser	Assistant	1,000.00
Jerome N. Miller	Assistant	1,000.00
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Alpha J. Will	Part-time Assistant	500.00
George M. Strong	Part-time Assistant	500.00
Ray Geddes	Graduate Assistant	500.00
Iman Schurman	Graduate Assistant	500.00
W. F. Underwood	Assistant	1,000.00
Paul M. Wright	Assistant	833.33
Elbert C. Ladd	Graduate Assistant	500.00
Clyde A. Sheely	Graduate Assistant	500.00
William T. Smith	Assistant	1,000.00
Claude G. Schmitt	Graduate Assistant	500.00
Kermit Groves	Graduate Assistant	110.00
Karl B. Nordstrom	Assistant	1,000.00
Bernard H. Shoemaker	Graduate Assistant	110.00
Alva Thompson	Assistant	1,000.00
George T. Rankin	Graduate Assistant	500.00
Austin F. Lehman	Graduate Assistant	500.00
Eugene A. Provine	Graduate Assistant	500.00
Barbara S. Say	Graduate Assistant	500.00
Winifred D. Robinson	Graduate Assistant	500.00
Delmar L. Cottle	Graduate Assistant	500.00
Julian M. Mavity	Graduate Assistant	500.00
Ralph M. Melaven	Graduate Assistant	500.00
Gale F. Nadeau	Graduate Assistant	500.00
Arthur J. Stratton	Graduate Assistant	500.00
Donald H. Sheffield	Graduate Assistant	500.00
Ignatius Wernert	Graduate Assistant	500.00
Edward G. Locke	Graduate Assistant	500.00
Jaroslav J. Kucera	Graduate Assistant	500.00

Charles C. Clark	Graduate Assistant	500.00
Alfred L. Curl	Graduate Assistant	500.00
Thomas C. Chadwick	Graduate Assistant	500.00
Kenneth L. Metcalf	Graduate Assistant	500.00
Solomon F. Whirl	Graduate Assistant	500.00
Richard A. Shutt	Graduate Assistant	500.00
Frank G. Foote	Graduate Assistant	500.00
C. D. Looker	Assistant Professor	612.50
William R. Stemen	Instructor	500.00
Calvin A. Buehler	Assistant Professor	750.00
Leonard G. Wise	Graduate Assistant	500.00
David C. O'Donnell	Instructor	1,400.00
W. C. Fernelius	Instructor	1,875.00
Philip G. Horton	Assistant	1,000.00
John E. Gran	Graduate Assistant	500.00
Henry D. Dawson	Graduate Assistant	500.00
Joseph L. Gillman, Jr.	Graduate Assistant	500.00
L. W. Kale	Student Assistant	250.00
Dean D. Huffman	Student Assistant	250.00
Benjamin R. Hansen	Student Assistant	250.00
Waino Harold Pesola	Student Assistant	250.00
Casimer J. Munter	Student Assistant	250.00
Alden H. Burkholder	Graduate Assistant	500.00
Mildred R. Newlin	Graduate Assistant	388.85
Hysell M. Brooks	Graduate Assistant	388.85

CIVIL ENGINEERING

C. E. Sherman	Professor	6,000.00
C. T. Morris	Professor	5,750.00
E. F. Coddington	Professor	5,250.00
John C. Prior	Professor	4,437.50
R. C. Sloane	Professor	4,250.00
J. R. Shank	Professor	3,750.00
J. M. Montz	Assistant Professor	2,800.00
C. H. Wall	Assistant Professor	2,750.00
Oscar J. Marshall	Instructor	2,000.00
Arthur G. Wyatt	Instructor	2,000.00
F. H. Eno	Research Professor	375.00
R. C. Sloane	Professor	600.00
J. M. Montz	Assistant Professor	400.00
C. H. Wall	Assistant Professor	350.00
Karl V. Taylor	Instructor (Special)	1,000.00
Elmer K. Timby	Instructor	300.00
Arthur G. Wyatt	Instructor	300.00
Oscar J. Marshall	Instructor	300.00

ELECTRICAL ENGINEERING

F. C. Caldwell	Professor	5,500.00
A. F. Puchstein	Associate Professor	4,000.00
J. E. Shepardson	Assistant Professor	3,000.00
W. L. Everitt	Assistant Professor	3,187.50
E. E. Kimberly	Assistant Professor	2,625.00
Thomas C. Lloyd	Instructor	2,000.00
Kwan Yau Tang	Instructor	1,700.00
Alfred A. Roetken	Assistant	1,000.00
Earl B. McDowell	Assistant (12 months)	1,800.00
Susannah L. Bryant	Assistant (12 months)	1,020.00
Ralph R. MacLaughlin	Assistant (12 months)	1,334.00
Robert E. Eberts	Laborer	365.32
Edgar R. Robinson	Student Assistant (8 months)	200.00
Russell C. Newhouse	Student Assistant (8 months)	200.00
Lewis Hostetter	Laborer	278.57

ENGINEERING DRAWING

Thomas E. French	Professor	6,000.00
Robert Meiklejohn	Professor	4,500.00
O. E. Williams	Professor	3,750.00
John M. Russ	Assistant Professor	3,300.00
W. B. Field	Assistant Professor	3,350.00
Ralph Paffenbarger	Assistant Professor	3,350.00
Allen P. McManigal	Assistant Professor	4,062.50
Charles D. Cooper	Instructor	2,537.50
Lawrence D. Jones	Instructor	2,537.50
Louis D. Lutzenberger	Instructor	2,200.00
Virginia Harrison	Assistant	1,200.00
Thomas O. Kuivinen	Assistant	800.00
Edward F. Tuta	Assistant	800.00
Gilbert H. Coddington	Student Assistant	300.00
Paul R. Lynn	Student Assistant	300.00
Paul Jeffries	Student Assistant	300.00
John A. Lane	Student Assistant	266.00
Harry H. Brittingham	Instructor	1,500.00
Paul E. Henderson	Instructor	500.00
Jay N. Edmondson	Instructor	1,500.00
Paul T. Hahn	Student Assistant	300.00
John F. Hunt	Student Assistant	300.00
William J. Seaman	Student Assistant	300.00

ENGINEERING EXPERIMENT STATION

George A. Bole	Research Professor	4,200.00
John M. Weed	Assistant to Director	3,000.00
Frank H. Eno	Research Professor	2,500.00
Edward L. Harcourt	Senior Investigator	600.00
Otis J. Everhart	Junior Research Engineer	1,800.00
John W. Larrimer	Sta. Mech. and Machine Custodian	225.00
Raymond E. Birch	Junior Research Engineer	1,693.55
Samuel Shenker	Laboratory Assistant (12 months)	1,260.00
Burl L. Wallace	Helper (9 months)	900.00
Harold C. Harrison	Research Engineer	1,875.00
Ora N. Essex	Junior Research Engineer	900.00
R. L. Galley	Junior Research Engineer	900.00
B. Parker Hess	Junior Research Engineer	535.48

INDUSTRIAL ENGINEERING

John Younger	Professor	6,000.00
W. A. Knight	Professor	3,500.00
O. D. Rickly	Assistant Professor	2,250.00
Rudolph Schneider	Instructor	2,000.00
U. W. Denman	Instructor	2,000.00
J. A. Foust	Instructor	2,000.00
Harold Wright	Instructor	2,000.00
Peter Morrison	Instructor	2,000.00
C. M. Beem	Instructor	300.00
Ora L. Justice	Assistant (12 months)	1,380.00
John F. Cooke	Laborer	960.00
Paul N. Lehoczky	Assistant	1,500.00

MATHEMATICS

H. W. Kuhn	Professor	5,000.00
S. E. Rasor	Professor	4,500.00
Henry Blumberg	Professor	4,250.00
James H. Weaver	Professor	4,000.00
C. L. Arnold	Professor	3,750.00

C. C. Morris	Professor	4,000.00
G. W. McCoard	Professor (Special)	2,000.00
A. D. Michal	Assistant Professor	4,000.00
C. C. MacDuffee	Assistant Professor	3,937.50
Charles T. Bumer	Assistant Professor	3,000.00
Grace Bareis	Assistant Professor	2,400.00
Harry Beatty	Assistant Professor	2,400.00
Vaughn B. Caris	Assistant Professor	2,400.00
Hortense Rickard	Assistant Professor	2,100.00
Margaret Jones	Instructor	1,800.00
Clarice S. Hobensack	Instructor	1,800.00
Thurman S. Peterson	Assistant	1,000.00
Edward J. Finan	Assistant	1,166.67
Henry P. Thielman	Assistant	1,000.00
George N. Garrison	Assistant	833.32
Mabel Schmeiser	Assistant	833.32
Richard C. Hildner	Assistant	833.32
Herbert Howe	Graduate Assistant	500.00
Carroll E. Amos	Graduate Assistant	500.00
Maude J. Hickey	Graduate Assistant	500.00
George F. Copp	Student Assistant	200.00

MECHANICAL ENGINEERING

William T. Magruder	Professor	5,500.00
F. W. Marquis	Professor	5,250.00
C. A. Norman	Professor	4,250.00
Horace Judd	Professor	4,000.00
A. I. Brown	Associate Professor	3,750.00
Paul Bucher	Assistant Professor	3,250.00
Karl W. Stinson	Assistant Professor	3,500.00
George N. Moffat	Instructor	2,625.00
Samuel R. Beitler	Instructor	2,500.00
C. P. Roberts	Instructor	2,375.00
R. L. Pratt	Helper and Fireman	2,000.00
Robert T. Simpson	Machinist	1,800.00
James O. Kennedy	Assistant (12 months)	1,250.00
John P. Kramer	Laborer	1,200.00
Paul Bucher	Assistant Professor	500.00
James G. Denson	Helper	323.25
Donald T. Johnstone	Student Assistant	100.00
Franklin O. Vogelsang	Student Assistant	300.00
Raymond W. Porter	Student Assistant	232.00
Franklin D. Widner	Student Assistant	132.00
Walter J. Pierce	Helper	217.40
Thomas O. Kuivinen	Student Assistant	122.77
Elmer J. Hall	Helper	85.12

MECHANICS

James E. Boyd	Professor	6,000.00
Percy W. Ott	Associate Professor	4,000.00
Samuel B. Folk	Assistant Professor	2,687.50
Ralph W. Powell	Assistant Professor	2,512.50

METALLURGY

D. J. Demorest	Professor	5,500.00
W. A. Mueller	Professor	4,266.67
J. O. Lord	Assistant Professor	3,000.00
Clifford S. LeVake	Student Assistant	90.00
Edward W. Burd	Student Assistant	256.45
William J. Jenkins	Student Assistant	166.45

MINE ENGINEERING

H. E. Nold	Professor	4,000.00
Edward V. O'Rourke	Assistant Professor	3,600.00
Frank A. Ray	Emeritus Professor	1,000.00

MINERALOGY

W. J. McCaughey	Professor	5,000.00
Arthur M. Brant	Assistant Professor	2,812.50
Joseph W. Gill	Student Assistant	90.00
John J. Hazel	Student Assistant	150.00

PHYSICS

A. D. Cole	Professor	2,082.00
Alpheus W. Smith	Professor	5,500.00
F. C. Blake	Professor	5,000.00
R. F. Earhart	Professor	4,750.00
H. G. Heil	Assistant Professor	4,000.00
Alva W. Smith	Assistant Professor	3,750.00
Robert V. Zumstein	Instructor	2,750.00
Jerome B. Green	Instructor	2,600.00
J. W. Sappenfield	Instructor	450.00
Francis L. Meara	Instructor	1,800.00
Harold P. Knauss	Instructor	1,950.00
Fred J. Brooks	Assistant (12 months)	1,800.00
J. B. Sparrow	Assistant (12 months)	1,500.00
Paul L. Huber	Assistant	900.00
Marathon E. High	Assistant	900.00
Harry V. Knorr	Assistant	900.00
John R. Patty	Assistant	800.00
Paul W. Handel	Graduate Assistant	500.00
Earl W. Ford	Graduate Assistant	500.00
Orville C. Woodyard	Graduate Assistant	500.00
Raymond W. Sears	Graduate Assistant	500.00
Stanley V. Allen	Graduate Assistant	500.00
Dwight E. Gray	Graduate Assistant	500.00
M. L. Pool	Instructor	1,800.00
Herman M. Roth	Assistant	900.00
Arthur W. Fleming	Graduate Assistant	500.00
Arthur F. Dittmer	Instructor	2,000.00
Joseph C. Pfeiffer	Assistant	900.00

COLLEGE OF LAW

Clarence D. Laylin	Professor	6,500.00
Lewis M. Simes	Professor	5,875.00
Silas A. Harris	Professor	4,125.00
Norman D. Lattin	Assistant Professor	4,250.00
Robert M. Hunter	Assistant Professor	4,250.00
William H. Rose	Assistant Professor	4,062.50
Myrtle Albaugh	Stenographer	500.00
Robert E. Mathews	Professor	1,375.00
Herschel W. Arant	Dean	10,000.00
Alonzo H. Tuttle	Professor	6,500.00
Harry W. Vanneman	Acting Professor	4,875.00
Joseph M. Cormack	Acting Professor	4,125.00
Lena Howard	Assistant to Dean	979.35
Edna McLaughlin	Stenographer	700.00

COLLEGE OF MEDICINE

J. H. J. Upham	Dean	7,500.00
Arthur J. Linn	Secretary to Dean	2,400.00
Gladys Johnston	Secretary, Dept. of Pathology	1,500.00
Elizabeth Flautt	Stenographer	1,020.00
Carl P. Effler	Technical Assistant	2,500.00
Margaret Rose	Technical Assistant	1,750.00
Katherine Worth	Technical Assistant	960.00

ANATOMY

F. L. Landacre	Professor	6,000.00
Edward C. Buck	Professor	3,500.00
Rollo C. Baker	Associate Professor	3,600.00
R. A. Knouff	Associate Professor	3,600.00
Clarence I. Britt	Instructor	1,800.00
Hugh Setterfield	Instructor	1,700.00
Dwight M. Palmer	Assistant	1,000.00
Wallace W. Jackson	Technician	1,200.00
George W. Petznick	Student Assistant	100.00
David Bender	Student Assistant	300.00
B. F. Wenger	Student Assistant	100.00
Berger Thomas	Assistant	333.00
Philip T. Knies	Student Assistant	300.00
William Z. Kling	Assistant	900.00
Thelma Bair	Student Assistant	300.00
L. S. Pettit	Student Assistant	200.00
J. G. Powell	Assistant	667.00

BACTERIOLOGY

Charles B. Morrey	Professor	5,500.00
William A. Starin	Professor	4,250.00
Fred Speer	Assistant Professor	3,000.00
George E. Helz	Instructor	1,750.00
Bernice G. Tracy	Instructor	1,400.00
Joseph A. Taylor	Laboratory Assistant	1,320.00
John G. McCrimmon	Instructor	450.00
Harry H. Weiser	Instructor	1,600.00
Dudley P. Glick	Assistant	300.00

MEDICINE

E. J. Gordon	Professor of Medicine and Director of Dispensaries	4,000.00
Elmer G. Horton	Professor	1,500.00
Jacob J. Coons	Professor	300.00
S. A. Hatfield	Assistant Professor	2,000.00
F. C. Wagenhals	Assistant Professor	150.00
G. I. Nelson	Instructor	2,782.00
Lear H. Van Buskirk	Instructor	2,000.00
H. LeFever	Instructor	166.00
Samuel D. Edelman	Instructor	500.00
E. H. Baxter	Instructor	500.00
Link Murphy	Assistant	100.00
John W. Larcomb	Assistant	200.00
George O. Hoskins	Instructor	100.00
Eugene W. Martz	Assistant	100.00
H. K. Fulton	Assistant	100.00
W. Eugene Masters	Assistant	1,266.66
Frank Schmidt	Assistant	100.00
Mary Ann Graber	Assistant	100.00
H. M. Platter	Lecturer in Medical Law	240.00

OBSTETRICS

Andrews Rogers	Professor	3,000.00
Herman Koerper	Assistant Professor	700.00
Francis W. Davis	Assistant	2,250.00
Thomas A. Vogel	Thomas A. Vogel	400.00

OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Hugh G. Beatty	Associate Professor	600.00
John B. Alcorn	Assistant Professor	500.00
Albert D. Frost	Assistant Professor	500.00
T. Rees Williams	Instructor	600.00
Russell G. Means	Instructor	300.00
W. A. Stoutenborough	Assistant	75.00
Edward W. Harris	Assistant	75.00

PATHOLOGY

Ernest Scott	Professor	5,000.00
Carl L. Spohr	Professor	4,000.00
Harry L. Reinhart	Instructor	2,362.50
Edith Miller	Instructor	1,700.00
Ethel Ray Zorn	Technical Assistant	687.50
Ruth M. Moore	Technical Assistant	1,333.33
Mortimer Banks	Technical Assistant	1,300.00
Clinton L. Bryant	Technical Assistant	1,300.00
Robert A. Moore	Instructor	350.00
Mary Krise	Assistant	1,500.00
Vernon B. Wood	Student Assistant	300.00
Mildred Aldrich	Technical Assistant	812.50
Lester A. Hamilton	Technical Assistant	154.84

PHYSIOLOGY

Leonard B. Nice	Professor	5,000.00
A. M. Bleile	Professor	4,000.00
Raymond J. Seymour	Professor	4,000.00
Clayton McPeek	Assistant Professor	2,062.50
Edwin P. Durrant	Assistant Professor	2,700.00
Fred A. Hitchcock	Assistant Professor	2,700.00
H. E. Hamlin	Instructor	2,500.00
R. R. Durant	Instructor	2,375.00
D. W. Ashcraft	Assistant	750.00
Mildred Stouffer	Technical Assistant	1,200.00
R. R. Durant	Instructor	444.44
Harold C. Weisenbarger	Graduate Assistant	500.00
Alvina Mattison	Graduate Assistant	500.00
Walter Elhardt	Assistant	350.00
Margaret L. Brooks	Student Assistant	180.00
Ruth A. Koons	Student Assistant	120.00
Helen McKenzie	Student Assistant	60.00
Esther M. Stubbs	Student Assistant	120.00
Helen M. Manahan	Student Assistant	240.00
Luette H. Kuhlman	Student Assistant	180.00
Margaret K. Nesbitt	Student Assistant	240.00
Bonnibell M. Simmons	Student Assistant	120.00
Olga S. Bierbaum	Student Assistant	60.00

PHYSIOLOGICAL CHEMISTRY

Clayton S. Smith	Professor	5,000.00
John B. Brown	Assistant Professor	3,500.00
Helen L. Wikoff	Instructor	2,550.00

Roland Cox	Technical Assistant	1,500.00
Roscell T. Preston	Technical Assistant	1,200.00
Elah M. Deck	Graduate Assistant	500.00
Vincent C. Ward	Graduate Assistant	500.00
Stewart G. Morris	Graduate Assistant	500.00
John J. Wenzke	Assistant	500.00
Alice Rush	Student Assistant	50.00

PUBLIC HEALTH

Emery R. Hayhurst	Professor	4,000.00
Norma Selbert	Assistant Professor	3,000.00
James S. Wilson	Assistant Professor	2,375.00
Edna M. McLaughlin	Stenographer	207.00
Wanda Knox	Stenographer	279.56

SURGERY AND GYNECOLOGY

Verne A. Dodd	Professor	5,000.00
E. G. Horton	Professor	500.00
John W. Means	Assistant Professor	2,750.00
Luke V. Zartman	Assistant Professor	1,300.00
Hugh J. Means	Assistant Professor	900.00
Edwin A. Hamilton	Assistant Professor	500.00
Phillip J. Reel	Instructor	2,200.00
Paul H. Charlton	Instructor	2,000.00
William N. Taylor	Instructor	800.00
George H. Shawaker	Instructor	500.00
Edward H. Wilson	Instructor	500.00
E. J. Stedem	Assistant	600.00
Faye Irvin	Technician	900.00
Louis J. Roth	Assistant	500.00
Gerald P. Lawrence	Assistant	300.00
Elmer J. Rodenberg	Resident in Surgical Pathology	400.00

UNIVERSITY HOSPITAL

Charles E. Findlay	Superintendent	3,600.00
Lucy V. Ailer	Supt. of Nurses	2,000.00
Ruth K. Snowden	Asst. Supt. of Nurses	1,800.00
Ila Alexander	Operating Room Supervisor	1,425.23
Mabel Ickes	Supervising Nurse	1,600.00
Blanche Burket	Night Supervisor	500.00
Roberta Philbrook	Supervising Nurse	1,440.00
Ruth De Wolfe	Supervising Nurse	1,380.00
Emily Stockford	Supervising Nurse	1,260.00
Olga Atwood	Supervising Nurse	600.00
Ila Ward	Supervising Nurse	739.29
Marjorie Swift	Supervising Nurse	1,200.00
Julia Huber	Supervising Nurse	100.00
Elnora Weigel	Supervising Nurse	100.00
Wilhelmine Werdelmann	Supervising Nurse	1,200.00
Anna Besse	Assistant Night Supervisor	630.00
John E. Hoberg	Resident Physician	1,200.00
Wilda Hockenberry	Dietitian	300.00
Dorothy Heald	Acting Dietitian	1,633.33
Norma P. Brown	Supervising Nurse	1,200.00
Viola Brown	Supervising Nurse	250.00
Alice Bustin	Technical Assistant	750.00
Ada Galloway	Supervising Nurse	100.00
Warren F. Kahle	Interne	200.00
Cecil Krigler	Interne	200.00
Richard F. Good	Interne	200.00
John Bevan	Interne	200.00

John W. Camp	Interne	200.00
James M. Foley	Interne	200.00
Ora W. Rapp	Interne—St. Francis	100.00
Roy H. Clunk	Interne—St. Francis	200.00
Horen M. Soghikian	Interne—St. Francis	200.00
Walter F. Coakley	Interne—St. Francis	200.00
John R. Peters	Interne—St. Francis	100.00
Charles W. Pavey, Jr.	Interne—St. Francis	200.00
George Watson	Interne	200.00
Paul Savageot	Interne	200.00
Frieda Schacht	Assistant Night Supervisor	817.74
Sarah Bell	Supervising Nurse	1,100.00
Ruth Ryland	Assistant Dietitian	433.33
Bernice Ewing	Supervising Nurse	106.45
Elsie Mitchell Johnston	Supervising Nurse	1,100.00
Bea Bustin	Laboratory Technical Assistant	1,250.00
Helen Moore	Asst. Operating Room Supervisor	203.33
Marjorie Goetze	Supervising Nurse	750.00
Mabell Penn	Night Supervisor	933.34
Alice McConkey	Supervising Nurse	750.00
Virginia Miller	Supervising Nurse	200.00
Nadine H. Hoffman	Assistant Dietition	600.00
Clysta Thornburg	Supervising Nurse	177.42
Margaret Reilly	Acting Supt. of Nurses	900.00
Pauline Evans	Supervising Nurse	500.00
Velma Johnson	Assistant to Instructor of Nursing Procedures	460.71
Edna Moore	Assistant Night Supervisor	351.61
Evelyn M. Smith	Supervising Nurse	400.00
Rena Reeve	Supervising Nurse	400.00
Mabel H. Brauckle	Supervising Nurse	151.61
Julia Gray	Supervising Nurse	193.55
Louise McCleary	Chief Clerk (Stenographer)	1,380.00
Elizabeth Simmerman	Bookkeeper (Stenographer)	1,140.00
LeEvelyn Kintner	Stenographer	1,260.00
Alice Taylor	Clerk	1,200.00
Lelia Evans	Cashier (Clerk)	1,080.00
Florence B. Jones	Stenographer	1,020.00
Josephine Shoaf	Stenographer	1,020.00
Lowell K. Ruff	Pharmacist	166.00
George McCleary	Storekeeper	166.00
Doris Roach	Admitting Clerk	1,020.00
Emma F. Ingmire	Telephone Operator	960.00
Lillie Willis	Housekeeper	600.00
Nora Massie	Seamstress	1,080.00
Maude E. Ruth	Seamstress	720.00
J. H. Johnson	Chef	1,800.00
Mary Mitchell	Pastry Cook	1,080.00
Julia French	Assistant Cook	780.00
Fannie Moore	Assistant Cook	720.00
Bessie Shank	Cook	75.48
Mayme E. Austin	Assistant Cook	300.00
Doll Carter	Diet Kitchen Helper	600.00
Helen Thomas	Diet Kitchen Helper	600.00
Christine Hamilton	Diet Kitchen Helper	600.00
Sarah Landers	Diet Kitchen Helper	600.00
Mattie Wilson	Assistant Cook	707.10
Mollie Brown	Diet Kitchen Maid	300.00
Emma Wright	Diet Kitchen Maid	264.52
Gertrude Conley	Maid	600.00
Ruth Jackson	Maid	600.00
John Long	Orderly	1,200.00
Ben Thomas	Orderly	1,140.00
Marcellus Waide	Orderly	240.00
Ernest Long	Janitor	1,200.00

Oscar Raver	Janitor	1,080.00
Johnnie Wright	Janitor	810.00
Elvyn Waide	Janitor	1,080.00
Cornelius B. Clark	Janitor	1,080.00
Livingston Wright	Night Janitor	1,080.00
Elmer M. Kiner	Elevator Man	780.00
Charlotte Thum	Janitress	750.00
Elizabeth Rourke	Janitress	750.00
Vonnie Herndon	Janitress	600.00
Martha Davis	Janitress	600.00
George Griffin	Dishwasher	780.00
Eugene Smith	Dishwasher	300.00
Ruth Benton	Dishwasher	600.00
Clementine Berry	Dishwasher	600.00
Rosalie Burgess	Janitress (Maid)	600.00
Clara Dalton	Janitress (Maid)	600.00
Lugina Prince	Diet Kitchen Maid	250.00
Dorothy Shoemaker	Telephone Operator	960.00
Melvina Abrams	Diet Kitchen Maid	437.10
Velma Trent	Maid	600.00
Margaret Syfert	Typist	1,020.00
Major Bell	Orderly	200.00
Stockton V. Thomas	Orderly	125.00
John G. Degeaman	Cook	130.00
George Smith	Kitchen Helper	92.90
Margaret Jones	Seamstress	600.00
W. C. Miller	Janitor	900.00
Samuel Lewis	Janitor	450.00
Cora Lee White	Diet Kitchen Helper	600.00
Roy White	Kitchen Helper	627.10
Elsie Mae Payne	Diet Kitchen Helper	333.87
Ben Payne	Orderly	125.00
James Daniel	Assistant Cook	585.00
Arleigh C. Morgan	Orderly	480.00
Charles S. Landers	Orderly	100.00
Willie Carter	Orderly	350.00
Allen Gibson	Dishwasher	418.06
Sadie Adkins	Diet Kitchen Maid	350.00
Eulace Green	Diet Kitchen Maid	80.65
David Frawley	Orderly	100.00
Thresa Foster	Janitress	296.77
Florence Sellers	Diet Kitchen Maid	300.00
Jennie Alexander	Assistant Cook	300.00
Filmore Simpson	Janitor	450.00
Mattie Sue Willis	Janitress	300.00
Elma Irene Stemen	Nurses' Aid	354.19
Lucy Lester	Diet Kitchen Helper	50.00
Mollie Brown	Diet Kitchen Helper	200.00
Mary E. Mormon	Diet Kitchen Helper	150.00
Donald D. Morgan	Orderly	63.33
John H. Rowland	Janitor	225.00
Sarah Jane Hadden	Cook	150.00
Ralph Pierce	Orderly	106.67
Geneva Coolley	Diet Kitchen Helper	50.00

UNIVERSITY HOSPITAL—NURSES

Mary Anderson	Student Nurse	75.00
Helen Armstrong	Student Nurse	75.00
Mollie Badertscher	Student Nurse	75.00
Martha Balthaser	Student Nurse	75.00
Mary Barber	Student Nurse	50.00
Helen Baum	Student Nurse	75.00
Charlotte Bennett	Student Nurse	75.00

Ida Black	Student Nurse	75.00
Marie Blaney	Student Nurse	31.25
Mildred Brenner	Student Nurse	18.75
Zelma Brundige	Student Nurse	75.00
Julia Bunn	Student Nurse	62.50
Ruth Cohen	Student Nurse	43.75
Marie Connell	Student Nurse	18.75
Anna Corey	Student Nurse	75.00
Harriet Delaplane	Student Nurse	75.00
Ruth Dolby	Student Nurse	75.00
Ora Easterday	Student Nurse	75.00
Alleene Ellis	Student Nurse	75.00
Margaret Fields	Student Nurse	75.00
Rhea Fishbaugh	Student Nurse	75.00
Helen Fisher	Student Nurse	25.00
Hettie Griffith	Student Nurse	18.75
Mary Hays	Student Nurse	75.00
Ilo Herbert	Student Nurse	75.00
Margaret Hill	Student Nurse	75.00
Gwendolyn Jones	Student Nurse	75.00
Hazel Jones	Student Nurse	75.00
Ruth Jones	Student Nurse	18.75
Bertean Keeler	Student Nurse	18.75
Donna Kerst	Student Nurse	75.00
Mary Balthasar	Student Nurse	75.00
Ethel Kirchofer	Student Nurse	75.00
Irene Koons	Student Nurse	75.00
Olive Laird	Student Nurse	75.00
Margery Maxwell	Student Nurse	75.00
Alice McConkey	Student Nurse	18.75
Adrienne Midlam	Student Nurse	75.00
Alice Miller	Student Nurse	75.00
Hilda Miller	Student Nurse	56.25
Edna Moore	Student Nurse	43.75
Edna Moorehead	Student Nurse	75.00
Inez Morris	Student Nurse	18.75
Louise Ort	Student Nurse	75.00
Margaret Owen	Student Nurse	50.00
Maxine Paxton	Student Nurse	18.75
Esther Petty	Student Nurse	18.75
Myrtle Ringer	Student Nurse	31.25
Ruth Roberts	Student Nurse	25.00
Isabel Schlegel	Student Nurse	75.00
Hermagine Seidel	Student Nurse	18.75
Hazel Seip	Student Nurse	75.00
Helen Severns	Student Nurse	75.00
Leah Shelt	Student Nurse	25.00
Irene Shuttleworth	Student Nurse	31.25
Blanche Skinner	Student Nurse	75.00
Frances Spalt	Student Nurse	75.00
Ruby Spohn	Student Nurse	18.75
Cecile Stahl	Student Nurse	50.00
Gladys Steenrod	Student Nurse	75.00
Cora Strohm	Student Nurse	18.75
Lucy Sutton	Student Nurse	75.00
Helen Warner	Student Nurse	37.50
Gail Washburn	Student Nurse	18.75
Delia Webb	Student Nurse	75.00
Rena White	Student Nurse	18.75
Dorothy Wilder	Student Nurse	75.00
Anita Williams	Student Nurse	18.75
Alma Young	Student Nurse	75.00
Mabel Zulauf	Student Nurse	75.00
Thelma Bauman	Student Nurse	6.25

Winifred Butler	Student Nurse	68.75
Evelyn DeVore	Student Nurse	68.75
Grace Gardner	Student Nurse	68.75
Miriam Garverick	Student Nurse	18.75
Mary Hummel	Student Nurse	68.75
Mary Frances Laflin	Student Nurse	68.75
Ruth Mowery	Student Nurse	68.75
Mary Rase	Student Nurse	68.75
Dorothy Root	Student Nurse	68.75
Alice Rush	Student Nurse	68.75
Frances Sprunger	Student Nurse	6.25
Martha Stephens	Student Nurse	68.75
Esther Swendal	Student Nurse	68.75
Doris Baker	Student Nurse	31.25
Dorothy Pfisterer	Student Nurse	50.00
Grace Richey	Student Nurse	50.00
Martha Schaeffer	Student Nurse	12.50

PHARMACY

Clair A. Dye	Dean	6,500.00
Clarence M. Brown	Asst. Professor	4,000.00
William S. Stevens	Instructor	2,700.00
Charles L. Williams	Instructor	2,200.00
William E. Keyser	Instructor	1,800.00
Albert C. Smith	Student Asssitant	200.00
Mary Collins	Stenographer	1,080.00
Ralph W. Stine	Student Assistant	132.00
William N. Carpenter	Student Asssitant	200.00
Robert C. Giffen	Student Asssitant	200.00
Learny F. Jones	Student Assistant	66.66

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David S. White	Dean	7,500.00
Oscar V. Brumley	Professor	5,000.00
Leonard W. Goss	Professor	5,000.00
James D. Grossman	Professor	4,000.00
James H. Snook	Professor	3,854.89
John N. Shoemaker	Asst. Professor	3,500.00
R. E. Rebrassier	Asst. Professor	3,300.00
Walter R. Hobbs	Asst. Professor	3,200.00
Derwin W. Ashcraft	Instructor	2,400.00
William H. Walker	Groom	1,260.00
Robert Millington	Groom	1,200.00
E. L. Clements	Technician	1,200.00
Marie Combs	Secy. to Dean (Stenographer)	1,200.00
Christopher Millington	Asst. Groom (9 mo.)	900.00
James W. Benner	Assistant (12 mo.)	1,500.00
Renna A. White	Bookkeeper	1,061.29

GRADUATE SCHOOL

William McPherson	Dean	7,500.00
Alice A. Moran	Secy. to Dean (Stenographer)	2,000.00
Luella M. Wright	Stenographer	1,200.00
Lura Bell Chamblin	Stenographer	1,140.00
Minnie May Johnson	Fellow	500.00
Earl E. Beard	Fellow	500.00
Austin G. Edison	Fellow	500.00
Robert A. Heffner	Fellow	500.00
Clyde M. Hobart	Fellow	500.00
Bertha Koch	Fellow	500.00

Chas. W. Shull	Fellow	500.00
Floyd F. Smith	Fellow	500.00
W. L. Young	Fellow	500.00
Roy O. Billett	Scholar	300.00
Arthur R. Choppin	Scholar	300.00
Clarence H. Cramer	Scholar	300.00
Clifford E. Garwick	Scholar	300.00
Josephine Stiers	Scholar	300.00
Gwendolyn Turney	Scholar	300.00
Jaya P. Narayan	Scholar	200.00
Val R. Lorwin	Scholar	300.00
Elizabeth M. Heskett	Scholar	300.00
James T. Taylor	Scholar	200.00
Raoul L. Menville	Scholar	300.00
Carolyn Shover	Scholar	300.00
Harold P. Alspaugh	Scholar	300.00
Frank P. Bakes	Scholar	300.00
Lorenz A. Meyer	Scholar	300.00
Edwin R. Henry	Scholar	300.00
James K. Skipper	Scholar	200.00
Helen F. Schick	Scholar	300.00
Dorothy M. McGhee	Scholar	300.00
Stanley C. Boylan	Scholar	100.00
Caroline Seymour	Scholar	100.00
Lester Raines	Instructor	2,000.00
Roy N. Giles	Research Asst.	1,000.00
Henry Janzen	Research Asst.	1,000.00
Morris C. Leikind	Research Asst.	500.00
Elinor Julia Barnes	Research Asst.	500.00
Sandford F. Essig	Research Asst.	900.00
Elmer F. Schroeder	Research Asst.	1,000.00
Fred W. Heimberger	Research Asst.	500.00
Robert L. Stevenson	Research Asst.	300.00
Ruby Jane Etter	Research Asst.	49.00
Jean F. Lewinson	Research Asst.	225.00
Maurice E. Hull	Research Asst.	320.00
R. A. Fisher	Research Asst.	250.00
Kermit Groves	Research Asst.	500.00
Bernard Shoemaker	Research Asst.	400.00
Juanita L. Irvine	Research Asst.	174.00
James A. Robertson	Research Asst.	200.00
Brian E. Tomlinson	Research Asst.	180.00

BIBLIOGRAPHY

Olive Jones	Associate Professor	2,000.00

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Maud D. Jeffrey	Reference Librarian	3,000.00
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Bertha Schneider	Catalog Librarian	3,000.00
Edna E. Davis	Supervisor of Department Libraries	2,800.00
Loa Evelyn Bailey	Librarian—Education Building	2,500.00
Mildred V. Watson	Librarian—Commerce Building	1,800.00
Ethel M. Miller	Librarian—Botany and Zoology Building	1,300.00
Alice D. McKee	Assistant Reference Librarian	2,200.00
William R. Janeway	Assistant Reference Librarian	2,000.00
Gladys Capell	Library Reference Assistant	1,800.00
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Rita M. Buxton	Secretary to the Librarian	2,000.00
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B. Jeannette Burrell	Cataloger	2,200.00
Mildred L. Dillingham	Cataloger	1,900.00
Lillian Rose	Cataloger	1,700.00
Eleanor Graves	Cataloger	1,600.00
Margaret Y. Rose	Cataloger	1,000.00
Ellen Michael	Library Assistant	1,500.00
Esther Stroedter	Library Assistant	1,500.00
Grace M. Taylor	Library Assistant	1,400.00
Jane Kintner	Library Assistant	1,360.00
Rosanne Gilmore	Library Assistant	500.00
Lillian Michaelis	Library Assistant	1,200.00
Marie Hopkins	Library Assistant	1,200.00
Gertrude Nesbitt	Library Assistant	1,200.00
Juanita Fitzgerald	Library Assistant	700.00
Laura Case	Library Assistant	1,100.00
Adah P. Smith	Library Assistant	1,080.00
Helen Ewing	Library Assistant	225.00
Lela A. Sinkey	Library Assistant	1,080.00
Georgiana Brawley	Library Assistant	1,080.00
Marie M. Downes	Library Assistant	1,080.00
Mrs. Austin F. Lehman	Library Assistant	1,080.00
Eleanor Torbert	Library Assistant	1,020.00
Josephine Hoffman	Library Assistant	75.00
Elizabeth Marshall	Library Assistant	150.00
Helen Lehman	Library Assistant	90.00
Mary Stewart	Library Assistant	660.00
Evelyn Hensel	Cataloger	1,085.00
Alice Wolfe	Library Assistant	180.00
Charles E. Moul	Library Assistant	750.00
Irvin Sauerman	Library Assistant	300.00
Harold Grauel	Library Assistant	100.00
W. C. George	Check Room Attendant	1,440.00
Timothy Lehmann	Library Assistant	120.00
Dorothy Carr	Library Assistant	80.00
Elizabeth Baugh	Library Assistant	60.00
Mildred Rasor	Library Assistant	30.00
Virginia Beckwith	Library Assistant	50.00
Margaret Anderson	Library Assistant	100.00
Walter Burnham	Library Assistant	480.00
Dorothy Moore	Library Assistant	40.00
Thelma Walley	Library Assistant	180.00
John Roberts	Student Assistant	620.00
Francesca Hockett	Library Assistant	360.97
Paul Leonard	Library Assistant	810.00
Paul Noon	Library Assistant	720.00
Lester Seitz	Library Assistant	60.00
Anna Roberts	Library Assistant	30.00
Joseph Young	Library Assistant	60.00
Lorene Hull	Library Assistant	60.00
Marguerite Andrade	Library Assistant	225.00
John Pinkerton	Library Assistant	400.00
John Gray	Library Assistant	120.00
Faith Owen	Library Assistant	80.00
Walter I. Insley	Library Assistant	330.00
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Edith Virden	Library Assistant	263.71
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Ruth Morgan	Library Assistant	540.00
John T. Haswell	Library Assistant	240.00
Charles Sohns	Library Assistant	360.00
Pearl Hokko	Library Assistant	270.00
Arthur Gorsuch	Library Assistant	30.00

Nell Langley	Library Assistant	350.00
Albert J. Bolsinger	Library Assistant	270.00
Ruth Kidwell	Library Assistant	270.00
Harold James	Library Assistant	270.00
Paul Key	Library Assistant	255.00
Arthur T. Martin	Library Assistant	255.00
John Van Dervoort	Library Assistant	240.00
Wray Bevens	Library Assistant	270.00
Grace R. Solt	Library Assistant	435.96
Frederick Beyerman	Library Assistant	90.00
Don D. Prosser	Library Assistant	90.00
Bernice Bollenbacher	Library Assistant	225.00
W. G. Hawthorne	Library Assistant	150.00
Cecil K. Sybrandt	Library Assistant	180.00
Max Johnstone	Library Assistant	375.00
Elizabeth Drum	Library Assistant	210.00
Arthur Gorsuch	Library Assistant	250.00
Geo. L. McBride	Library Assistant	60.00
Paul B. Keenan	Library Assistant	90.00
Helen Giffin	Library Assistant	480.00
Esther V. Cartzdafner	Library Assistant	411.29
Seth Mattingly	Library Assistant	150.00
Richard Leahy	Library Assistant	150.00
Sam Borton	Library Assistant	90.00
Elizabeth F. Emmert	Library Assistant	180.00
Pearl Garvin	Library Assistant	180.00
Frederick C. Ault	Library Assistant	120.00
Joseph Horton	Library Assistant	120.00
Mary Moore	Library Assistant	228.00
Ora L. Lewis	Library Assistant	150.00
Myron Seifert	Check-Room Assistant	135.00
Cecil Sybrandt	Library Assistant	105.00
H. Franklin Bond	Library Assistant	90.00
Nellie Dunham	Library Assistant	90.00
Charles Fox	Library Assistant	90.00
Carva Jones	Library Assistant	60.00
Ezra Smith	Library Assistant	60.00
Paul Urban	Library Assistant	90.00
Mildred Keenan	Library Assistant	90.00
Marjorie Cochran	Library Assistant	75.00
Paul Fancher	Library Assistant	50.00
Kenneth Faulhaber	Library Assistant	75.00
Dorothy Krepps	Library Assistant	75.00
Waldo Simpson	Library Assistant	75.00
Beatrice Torbert	Library Assistant	75.00
Eva P. Reese	Library Assistant	75.00
Luther Young	Library Assistant	75.00
Katherine Brittingham	Library Assistant	60.00

MILITARY SCIENCE

G. L. Townsend	Commandant	500.00
Paul A. Barry	Asst. Professor	250.00
Alvin C. Miller	Asst. Professor	50.00
Harrison McAlpin	Asst. Professor	250.00
Harold Haney	Asst. Professor	250.00
Harry D. Furey	Asst. Professor	250.00
Carl G. Holmes	Asst. Professor	250.00
Earl F. Long	Asst. Professor	250.00
Harvey H. Smith	Asst. Professor	250.00
John Hopkins	Asst. Professor	250.00
Keith K. Jones	Asst. Professor	250.00
Levie W. Foy	Asst. Professor	250.00
Joseph C. O'Dell	Asst. Professor	250.00

John P. Eckert	Asst. Professor	250.00
Don P. Branson	Asst. Professor	250.00
Norman Minus	Asst. Professor	250.00
William M. Mack	Asst. Professor	250.00
A. C. Sullivan	Asst. Professor	250.00
P. J. Atkinson	Asst. Professor	250.00
John Williams	Assistant	250.00
Fritz Howe	Assistant	250.00
Clara Offenbacher	Stenographer	1,200.00
Elsie Hoover	Stenographer	1,080.00
Helen Kindrick	Stenographer	960.00
Bud Blackburn	Laborer	180.00
Gustav Bruder	Band Leader	500.00
	Cadet Officers	5,411.46
Samuel J. Randall	Asst. Professor	250.00
Melvin L. McCreary	Asst. Professor	250.00
Bryan L. Davis	Asst. Professor	250.00
Harry H. Van Kirk	Asst. Professor	200.00

PHYSICAL EDUCATION—MEN

L. W. St. John	Professor	5,000.00
J. W. Wilce	Professor	2,500.00
F. R. Castleman	Professor	4,000.00
Samuel H. Cobb	Asst. Professor	3,500.00
Harlan G. Metcalf	Asst. Professor	2,625.00
George M. Trautman	Asst. Professor (12 mo.)	666.00
Darwin Hindman	Asst. Professor	3,187.50
Walter E. Duffee	Asst. Professor	1,875.00
Bernard F. Mooney	Instructor	2,300.00
Leo G. Staley	Instructor	2,325.00
H. S. Wood	Assistant Professor	2,200.00
Michael Peppe	Instructor	1,650.00
A. V. Pryor	Assistant	900.00
Gladys M. Pryor	Stenographer	1,080.00
J. W. Wilce	Professor	300.00
F. R. Castleman	Professor	200.00
H. G. Olsen	Assistant Professor	250.00
S. S. Willaman	Assistant Professor	250.00
M. C. Chambers	Assistant	100.00
Roy A. Hussey	Secretary	1,375.00
June M. Wildpret	Stenographer	720.00
Walter S. Petry	Student Assistant	300.00
Willard D. Altman	Student Assistant	400.00

PHYSICAL EDUCATION—WOMEN

Shirley Armstrong	Professor	3,200.00
Gladys Palmer	Assistant Professor	2,625.00
Margaret Robertson	Assistant Professor	3,000.00
Katherine Hersey	Assistant Professor	3,323.00
Esther Gilman	Assistant Professor	2,600.00
Dorothy Sumption	Assistant Professor	2,600.00
Elizabeth Sehon	Instructor	2,200.00
Lenore K. Alway	Instructor	2,150.00
Helen Saum	Instructor	500.00
Ann E. Hall	Instructor	450.00
Helen B. Schleman	Instructor	1,800.00
Adele Kimm	Instructor	1,800.00
Alma Volp	Pianist	1,100.00
Lucy S. Tingley	Stenographer	1,200.00
Margaret Gettinger	Typist	1,200.00
Mrs. Thomas Riddle	Matron	900.00

Louise Ortman	Maid	960.00
Carrie Henry	Maid	720.00
Dulio Fontanini	Laborer	100.00
Gladys Palmer	Assistant Professor	400.00
Lydia Clark Benedict	Professor	2,916.66
Roberta Connelly	Student Assistant	50.00
Virginia Bone	Student Assistant	50.00
Margaret Lea	Instructor	1,350.00
Elizabeth McLurg	Maid	420.00
Virginia Blunt	Instructor	1,350.00
Florence Grabiel	Assistant Pianist	300.00
Frank Vari	Laborer	1,100.00
Wilma Snider	Student Assistant	278.50
Elizabeth P. Scott	Maid	166.00

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Joseph A. Park	Student Counselor	4,000.00
Katherine A. Vogel	Executive Clerk	3,000.00
John E. Pryor	Statistician	3,250.00
Edgar C. Turney	Assistant Statistician	2,000.00
Hazel Schoellkopf	Stenographer	1,691.66
Miriam Long	Stenographer	1,560.00
Edith M. Auch	Auditor of Student Organizations	850.00
Ruth Blosser	Stenographer	1,080.00
Mary E. Frame	Stenographer	1,125.00

BUSINESS OFFICE

Carl E. Steeb	Secretary of Board of Trustees and Business Manager	7,500.00
Mary L. Bradfield	Stenographer	1,500.00
R. M. Royer	Purchasing Agent	4,950.00
Mary E. Duffy	Stenographer	2,250.00
Mildred Scott	Clerk	1,380.00
Katherine R. Mueller	Clerk	1,380.00
Pauline Lehman	Typist	200.00
Geraldine Owston	Bookkeeper	900.00
Dorothea E. Fismer	Stenographer	810.00
Chas. A. Kuntz	Comptroller	5,000.00
Katherine C. Taylor	Office Assistant	1,500.00
Floris D. Hane	Cashier (Typist)	2,500.00
E. Lucille Keep	Typist	1,260.00
Margaret Pearce	Typist	1,200.00
Mary Kraus	Auditor	2,500.00
Anna O'Rourke	Stenographer	1,380.00
Virginia Burroughs	Stenographer	300.00
Dorotha Tippy	Typist	960.00
Florence Naile	Bookkeeper	2,500.00
Martha Beggs	Bookkeeper	1,200.00
Lucy J. Cobb	Clerk	1,200.00
Howard L. Hamilton	Clerk	175.00
Sara J. Ryan	Clerk	180.00
Florence M. Spencer	Clerk	1,500.00
Charles F. Miller	Assistant Comptroller	2,925.00
Dwight D. Guerin	Inventory Clerk	1,900.00
Louise Cable Jones	Stenographer	963.33
Elizabeth Webb	Clerk	180.00
Florence M. Ford	Bookkeeper	464.29
Marguerite Potts	Clerk	57.58
Albert L. White	Inventory Clerk	150.00

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Edith C. Cockins	Registrar, University Editor and Secretary of the Faculty	5,000.00
Helen M. Clarke	Assistant Registrar	3,000.00
Ruth Evans	Assistant to Editor (Stenographer)	1,600.00
Ethyl Woodbury	Chief Schedule Clerk (Assistant to Registrar)	2,400.00
Bonnie Woodbury	Chief Transcript Clerk (Assistant to Registrar)	1,800.00
Ruth Agler	Assistant to Registrar	1,800.00
Florence Donnenwirth	Assistant to Registrar	1,600.00
Florence Shride	Assistant to Registrar	1,620.00
Mildred F. Orwig	Assistant to Registrar	1,300.00
Marguerite Fox	Assistant to Registrar	1,200.00
Josephine Richardson	Assistant to Registrar	1,200.00
Jean Flautz	Assistant to Registrar	1,140.00
Marguerite Buchanan	Assistant to Registrar	1,140.00
Dorothy Sinkey	Assistant to Registrar	1,120.00
Esther Head	Assistant to Registrar	1,180.00
Dorotha Buckley	Assistant to Registrar	1,080.00
Margaret Bazler	Assistant to Registrar	1,080.00
Mary Wing Robb	Stenographer	595.00
Josephine M. Ruff	Assistant to Registrar	425.00
Margaret Jacob Gray	Assistant to Registrar	850.00
Rosemary Bowen	Assistant to Registrar	1,020.00
Ann Katherine Carr	Assistant to Registrar	1,020.00
Eleanor L. Rittel	Assistant to Registrar	1,020.00
Arminie L. Shields	Assistant to Registrar	370.97
Jean Kirkpatrick	Assistant to Registrar	765.00
Elizabeth Pagels	Stenographer	900.00
Marjorie M. Hammond	Assistant to Registrar	688.23
Helen Powell Miles	Assistant on Alumni Survey	450.00
Doris C. Haines	Assistant to Registrar	510.00
Bonnie A. Farver	Assistant to Registrar	326.29

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Leona Freshwater	Stenographer	1,020.00
Adeline Underwood	Clerk	1,200.00
Howard C. Ginn	Assistant University Examiner	2,197.58

NEWS BUREAU

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Josephine B. Reed	Clerk	1,320.00

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Margaret Carter	Assistant to Dean	1,900.00
Josephine Clousing Kurtz	Research Assistant	1,000.00
Ada Radcliffe Marple	Stenographer	360.00
Fred Patterson	Janitor	1,440.00
Ocie M. Bower	Housekeeper	1,080.00
Margaret Edwards	Stenographer	720.00

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James Lawson	Checking Clerk	1,800.00
Mabel Clumm	Typist	1,066.00
Charles F. Reasoner	Tool-Room Keeper	1,320.00
Harry Sanders	Laborer	570.00
Robert H. Bower	Pharmacist	1,558.33
Leslie W. Rees	Pharmacist	1,500.00
George McCleary	Storekeeper	834.00
Greta Wilcox	Bookkeeper	100.00
Margaret Schureman	Clerk	737.42
Irvin C. Brown	Laborer	475.00
Mary Jane Morris	Clerk	141.67
Barbara G. Seaman	Clerk	85.00

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W. A. Humphrey	Assistant Physician	1,500.00
Maude M. Eckhardt	Clerk	1,320.00
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J. C. Vanneter	Assistant Director	750.00
James S. Wilson	Director	1,250.00
M. F. Osborn	First Associate Director	3,166.66
Harry E. LeFever	Second Associate Director	3,166.66
Shirley Armstrong	Third Associate Director	416.66
Margaret Robertson	Fourth Associate Director	416.66
Helen L. Hanes	Stenographer	445.71
Margaret Cohill	Stenographer	351.43

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Katherine Napier	Telephone Operator	1,320.00
Gertrude Hammell	Telephone Operator	1,080.00
Margaret O'Neill	Telephone Operator	1,080.00

UNIVERSITY PRESS

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Hugh Hardy	Clerk	1,500.00
G. J. Hoesch	Clerk (Janitor)	1,260.00
Ernest Ford	Mail Carrier (Janitor)	1,380.00

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William C. McCracken	Chief Engineer	5,500.00
Earl Y. Cohes	Clerk	1,980.00
Esther Hershberger	Stenographer-Clerk	1,320.00
William D. Moody	General Relief Man	1,320.00
Charles Feil	Refrigeration Mechanic	2,200.00
Mary Krautner	Stenographer	911.61

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E. I. Martin	Carpenter	2,340.00
Charles Blesch	Carpenter	2,280.00
W. E. Steel	Carpenter	2,280.00
A. H. Sipple	Carpenter	2,280.00

BETTERMENT OF BUILDINGS—PAINTERS

Max Lehman	Foreman (Painter)	2,100.00
Earling Howard	Painter	1,800.00
Otis Betts	Painter	1,800.00
James Brain	Painter	1,440.00
L. A. Christian	Painter's Helper	1,340.00
James E. McGrath	Painter's Helper	222.00
John M. Starkey	Painter's Helper	1,117.33

BETTERMENT OF BUILDINGS—PLUMBERS

Thomas Graham	Foreman Plumber	3,000.00
Earl Anthony	Plumber	2,700.00
E. E. Inscho	Plumber's Assistant	2,240.00
Ralph Bobb	Plumber's Assistant	1,740.00
Benjamin H. Oyer	Plumber's Assistant	1,620.00
Oriel Howell	Plumber's Apprentice	1,100.00
S. R. Sher	Heat Regulating Man	1,920.00
Polk J. Tennant	Plumber	2,641.94

BETTERMENT OF BUILDINGS—TINNERS

H. R. Johnson	Tinner	2,000.00

LIGHT, HEAT, AND POWER GENERATION

Thomas D. Banks	Superintendent of Power Plant	4,000.00
W. H. Case	Assistant Chief Engineer	2,220.00
Eugene Miller	Engineer	1,920.00
Robert Huddleston	Engineer	1,920.00
Charles Dick	Engineer	1,920.00
S. Lowery	Fireman–Pump Man	1,740.00
Frank Asher	Fireman	1,740.00
Clarence Snider	Fireman	1,740.00
William P .Reed	Fireman	1,740.00
Joseph Temple	Fireman	1,740.00
William Anderson	Craneman	1,980.00
Ross Smeltzer	Maintenance Mechanic	2,160.00
George Nye	Steamfitter-Boilerman	2,040.00
John O'Rourke	Clerk and Timekeeper (Inspector of Janitors and Buildings)	1,500.00
W. H. Kear	Pump Man	1,344.00
Thomas Findley	Crane Helper	1,344.00
Francy McGinnis	Fireman's Helper	1,344.00
C. L. Mincer	Fireman's Helper	1,344.00
Thomas B. Clark	Laborer	1,322.00
Jesse Johnson	Ash Wheeler	1,344.00
H. J. Roberson	Ash Wheeler	1,344.00
Dominic Bennedetto	Ash Wheeler	1,344.00
H. P. Cassaday	Laborer	1,344.00
J. Fredo	Laborer	1,200.00
Robert Brown	Boiler Repairman Helper (5 mo.)	1,287.00
Fred Brewer	Engineer (retired)	720.00
LeRoy V. Roberts	Pump Man	1,380.00
Norman Thompson	Laborer	1,320.00
Elmer Dupler	Fireman's Helper	798.94
D. Winters	Fireman's Helper	306.13

LIGHT HEAT AND POWER ELECTRICIANS

George Dillahunt	Foreman Electrician	2,280.00
Elmer Cavender	Electrician	1,960.00

Earl Achey	Assistant Electrician	1,780.00
C. T. Fippin	Assistant Electrician	1,800.00
Robert Murphy	Handy Man	1,860.00
Glen Stoody	Electrician	1,960.00

LIGHT HEAT AND POWER MACHINISTS

John P. Covan	Master Mechanic	2,400.00
Arthur Peglar	Mechanic	1,920.00
I. C. Reasoner	Blacksmith	1,740.00
B. A. LeBay	Machinist Helper (Steamfitter)	1,620.00
Charles Reasoner	Blacksmith's Helper	1,260.00

LIGHT HEAT AND POWER STEAMFITTERS

George E. Shepherd	Foreman Steamfitter	2,340.00
James Schweizer	Night Troubleman	2,100.00
Mike Yeager	Steamfitter	2,040.00
George Grover	Fireman	1,620.00
Fred Faust	Steamfitter Helper	1,320.00
William Ranney	Fireman (7 mo.)	980.00
Henry C. Herdt	Steamfitter	1,734.19

POLICE AND WATCHMEN

William North	Day Policeman	1,620.00
H. S. Brown	Night Policeman	1,530.00
Jay J. Farrell	Traffic Officer	1,500.00
O. D. Conaway	Night Supervisor	1,440.00
Thomas Bortle	Night Watchman	1,380.00
H. M. Cole	Night Watchman	1,380.00
B. L. Johnson	Night Watchman	1,380.00
Elmer T. Neff	Night Watchman	1,380.00
Charles C. Clayton	Night Watchman	230.00
Alphonso Case	Night Watchman	1,320.00
H. B. Case	Night Watchman	1,320.00
Michael J. Durkin	Night Watchman	1,320.00
Solomon D. Isennagle	Night Watchman	1,100.17

ROADS AND GROUNDS

Paul H. Elleman	Civil Engineer	2,820.00
Robert Graham	Engineer's Helper	1,500.00
Frank Funk	Arborator (Laborer)	1,035.00
Earl Bilderback	Foreman of Campus	1,800.00
John Bugna	Laborer	1,320.00
L. Stewart	Laborer	1,260.00
A. C. Chesbro	Laborer	1,200.00
John Rhone	Laborer	1,140.00
J. Hobart	Laborer	1,140.00
R. A. Bowers	Dragline Operator	1,800.00
Thomas Fraggott	Dragline Helper	1,500.00
Alphonse J. Lavoie	Laborer	1,200.00
Felix Coletta	Laborer	1,320.00
Adolf Singenstreu	Laborer	1,271.77
Paul Pinther	Laborer	210.00

ROADS AND GROUNDS—GARAGE

Howard McDonald	Auto Mechanic	1,800.00
William J. Murray	Auto Painter	1,800.00
McKinley Stewart	Laborer	1,380.00

Leo Moran	Truck Driver	1,260.00
C. D. Lowery	Laborer	1,260.00
Thomas Maher	Bus Driver (Laborer)	1,200.00
Emmett Stewart	Car Cleaner	1,200.00

ROADS AND GROUNDS—LANDSCAPE GARDENERS

John E. Hussey	Landscape Gardener	2,500.00
Harold Esper	Asst. Landscape Gardener	1,900.00
William Lloyd	Laborer	1,320.00
Phillip Truax	Laborer	253.33

JANITORS

A. O. Kaiser	Supt. Janitor Service	2,500.00
C. M. Hicks	Repair and Handy Man	1,440.00
Forest Spencer	Janitor	1,440.00
Thad S. Blackwood	Janitor	1,440.00
James H. Kramer	Janitor	1,440.00
Harry Chantler	Janitor	1,440.00
Charles G. Lane	Janitor	1,440.00
A. D. Grayson	Janitor	1,440.00
William Daehler	Janitor	1,440.00
M. F. Cooney	Janitor	1,440.00
Walter Penn	Janitor	1,440.00
L. F. Jordan	Janitor	1,400.00
Charles Carter	Janitor	1,400.00
Fred Henkel	Janitor	1,380.00
R. M. Moore	Janitor	1,380.00
Oliver Smith	Janitor	1,380.00
William Cavenaugh	Janitor	1,380.00
W. Curry	Janitor	1,380.00
W W. Smith	Janitor	1,380.00
Dan Brock	Janitor	1,380.00
J. R. Butler	Janitor	1,380.00
L. S. Hitchcock	Janitor	1,320.00
C. M. Shelton	Janitor	1,380.00
C. A. Hopkins	Janitor	1,380.00
Arthur Stone	Janitor	1,380.00
Edward J. Tyne	Janitor	1,380.00
M. Murphy	Janitor	1,380.00
John M. Wallace	Janitor	1,380.00
Edward Watson	Janitor	345.00
Charles E. Glover	Janitor	1,035.00
Willis Abbott	Janitor	1,380.00
George Wilson	Janitor	1,380.00
Elmer E. Smith	Janitor	1,380.00
C. Ashenhurst	Janitor	1,380.00
John M. Conti	Janitor	1,380.00
Lawrence J. McKenna	Janitor	1,380.00
William Eviston	Janitor	715.97
John S. Long	Janitor	1,380.00
George Perkins	Janitor	1,380 00
Joe Walker	Janitor	1,380.00
Peter J. Marquette	Janitor	1,380.00
William Shelton	Janitor	1,380.00
C. A. Hoppler	Janitor	1,380.00
Michael Murphy	Janitor	382.10
George W. Newman	Janitor	1,380.00
Alexander McCall	Janitor	1,380.00
John H. Jaeger	Janitor	1,380.00
Fred Cardosi	Janitor	1,380.00
William Goff	Janitor	1,380.00
John G. McCartney	Janitor	1,380.00

Monroe F. Walters	Janitor	1,380.00
Edward J. Long	Janitor	1,380.00
Patrick J. Keenan	Janitor	1,380.00
William H. Williams	Janitor	1,380.00
Joe Forcheski	Janitor	1,380.00
Earl Bell	Window Washer	1,380.00
L. A. Hall	Window Washer	1,380.00
John Tordiff	Janitor	1,320.00
H. Clemons	Janitor	1,320.00
James Merrill	Janitor	1,320.00
James Gormley	Janitor	1,320.00
Joseph H. Dickson	Janitor	1,320.00
Elmer McDowell	Janitor	1,320.00
James E. Harrington	Janitor	1,320.00
Arch F. Thomas	Janitor	1,320.00
John B. Truitt	Janitor	1,320.00
Edward C. Allen	Janitor	997.33
Robert Sams	Janitor	1,320.00
Charles E. Klinck	Janitor	1,320.00
Thomas Scott	Janitor	1,320.00
Clifford Gabbert	Janitor	1,320.00
J. A. Von Schriltz	Janitor	1,380.00
John F. Hill	Janitor	1,260.00
E. J. Nutt	Janitor	1,260.00
David L. James	Janitor	1,260.00
William E. Conant	Janitor	1,260.00
J. E. Hoelscher	Janitor (Student)	495.00
Arthur Koenig	Janitor (Student)	660.00
R. M. Thaxton	Natatorium Orderly	1,500.00
John Brown	Janitor	1,200.00
Mary Powers	Matron Rest Room	900.00
Clara Derflinger	Janitress	960.00
Viola Parsley	Janitress	960.00
Lou Cornett	Janitress	960.00
Rosa Lee Carter	Janitress	900.00
Nellie Rhodes	Janitress	900.00
R. H. McGreevy	Elevator Man	720.00
M. S. Harvey	Elevator Man	720.00
Herman Kaufman	Janitor	1,320.00
Nelson Weiler	Floor Waxer	1,320.00
Edgar McGhee	Floor Waxer	1,320.00
Alice Thompson	Janitress	840.00
Cecil C. Dysart	Janitor	1,320.00
Perry R. Davis	Janitor	1,035.00
Robert E. Hillery	Janitor	990.48
Albert N. Tracy	Janitor	658.91
Hettie Hampton	Janitress	305.00
Richard Alford	Janitor	345.00
John Conti	Janitor	322.67

LAUNDRY

Elmer Andrews	Launderer	1,200.00
Myrtle Faught	Laundress	1,200.00
May Rees	Laundress	960.00
Elizabeth Westenhaver	Laundress	840.00
Dolly Gray	Laundress	840.00
Clara Williams	Laundress	840.00
Rose Long	Laundress	840.00
Linora Holdren	Laundress	630.00
Blanche Hopkins	Laundress	65.48
Mayme Becker	Laundress	749.68
Maudie Shultz	Laundress	770.00
Emma Munyan	Laundress	210.00

UNIVERSITY ARCHITECT

J. N. Bradford	University Architect	4,200.00
H. F. Reichard	Chief Draftsman	3,800.00
C. F. Mayer, Jr.	Draftsman	3,200.00
P. E. Crider	Draftsman	2,800.00
A. H. Mickey	Supt. of Construction	3,000.00
Elsie Edwards	Clerk	1,560.00

COMMERCE EXTENSION

Thomas L. Kibler	Director and Professor of Economics	6,000.00
J. Wesley Sternberg	Asst. Professor of Business Finance	4,750.00
Charles H. Chase	Asst. Professor	4,687.50
H. Ezmond Smith	Asst. Professor	4,500.00
William H. Bamberg	Asst. Professor	4,625.00
Ayma J. Sharpe	Stenographer	1,600.00
R. B. Alspaugh	Instructor	937.50
J. W. Ley	Instructor (Special)	2,400.00
Perry P. Denune	Asst. Professor	2,250.00
R. B. Alspaugh	Instructor (Special)	833.33

BUREAU OF BUSINESS RESEARCH

Spurgeon Bell	Director and Professor	7,500.00
Willis Wissler	Professor	2,500.00
L. H. Grinstead	Associate Professor	5,250.00
Ralph J. Watkins	Associate Professor	5,000.00
Viva B. Boothe	Asst. Professor	2,502.00
Howard G. Brunsman	Research Assistant	2,019.60
Josephine Lowrie	Research Assistant	2,100.00
Erla Wombold	Stenographer	1,700.00
Kathleen Scobie	Stenographer	300.00
Lucile C. Armentrout	Stenographer	1,200.00
Margaret Leer	Typist	1,200.00
L. H. Grinstead	Associate Professor	1,055.00
Ralph J. Watkins	Associate Professor	370.00
Dorothy Zarembski	Student Assistant	400.00
Margaret Fippin	Student Assistant	300.00
Hollis Bell	Student Assistant	307.00
C. D. H. Eisenhart	Student Assistant	200.00
Loretta Yeamans	Stenographer	765.00
Lillian Hacker	Stenographer	720.00
Velma Dains	Stenographer	720.00
Josephine Shesky	Stenographer	528.71
Willis Wissler	Professor	370.37
Kathleen Scobie	Student Assistant	320.00
William Layton	Student Assistant	111.00
Eugene Rasor	Student Assistant	105.00
Roy G. Bowersock	Student Assistant	150.00
Ira La Moreaux	Student Assistant	100.00

RESEARCH FARM MARKETING—F-9

L. G. Foster	Asst. Professor	3,375.00
Jacob P. Schmidt	Asst. Professor	1,800.00
C. R. Arnold	Asst. Professor	1,200.00
J. F. Dowler	Instructor	2,700.00
John H. Sitterley	Assistant	2,000.00
Ernest Hopkins	Assistant	450.00
Paul G. Minneman	Assistant	1,800.00
Edgar Arneson	Assistant	187.50
Whitney B. Stout	Graduate Assistant	750.00
Russell R. Innis	Graduate Assistant	750.00

Dorothy Fuller	Clerk	1,020.00
Helen Elliott	Clerk	1,020.00
Ernest J. Hopkins	Graduate Assistant	562.50
Luella E. Bowers	Stenographer	307.10
Robert E. Straszheim	Assistant	900.00
Ruby Fogle	Stenographer	90.32
Kathleen Cooney	Stenographer	294.19

ENGINEERING EXPERIMENT STATION—F-9

Harry H. Holscher	Fellow	375.00
Paul F. Collins	Fellow	375.00
George Machwart	Fellow	375.00

GRADUATE SCHOOL—F-9

Josephine Shesky	Stenographer	220.00

MUSIC—F-9

Royal D. Hughes	Professor	6,000.00
Joseph A. Leeder	Associate Professor	4,500.00
George F. Strickling	Instructor	150.00

OHIO BIOLOGICAL SURVEY—F-9

Elizabeth Webb	Office Assistant	100.00
L. B. Walton	Specialist	200.00
J. Paul Visscher	Specialist	400.00
Stephen R. Williams	Specialist	300.00
Charles A. Nosker	Specialist	150.00
Mrs. W. V. Balduf	Specialist	100.00
Charles C. B. Mayer	Assistant	600.00
H. H. Eggleston	Specialist	400.00
Mrs. Virgil N. Argo	Assistant	600.00
Elizabeth Davis	Assistant	200.00
Arthur W. Lindsay	Specialist	100.00

DENTAL CLINIC—ROTARY

D. P. Snider	Assistant Professor	1,800.00
Wendell D. Postle	Instructor	1,500.00
Webster M. Baker	Instructor	1,000.00
Wilbur L. Marshall	Instructor	1,000.00
O. O. Mobberly	Superintendent of Laboratories	3,600.00
Emma Smith	Technical Assistant	800.00
Edna Wallace	Stenographer	1,200.00
Allie F. Harness	Clerk	1,000.00
Virginia Moore	Clerk	960.00
Mercedes Lang	Clerk	960.00
Sue Merrill	Sterilization Technician (Janitress)	840.00
Nora Moore	Technical Assistant	733.32
Emma Tate	Technical Assistant	66.00

FARM ROTARY

Hester Whitmer	Stenographer	1,020.00
Jane Allen Worthen	Stenographer	50.00
Myrtle Albaugh	Stenographer	70.00

BRACE SHOP—ROTARY 25

Oscar M. Peterson	Mechanic	2,400.00
Carl P. Effler	Technical Assistant	200.00

CLINIC—ROTARY 23

Katherine Worth	Technical Assistant	750.00
Grace Jordan	Assistant	400.00

UNIVERSITY HOSPITAL—ROTARY 27

Hugh J. Means	Consulting Radiologist	1,200.00
Ernest Scott	Pathologist	500.00
Carl L. Spohr	Clinical Pathologist	1,000.00
Jessie Jasper	Anesthetist	2,600.00
Emilie Kaiser	Anesthetist	1,680.00
Emily Greer	Assistant in Social Service (Investigator)	2,100.00
Faye Irvin	Technician	660.00
Edith Miller	Pathologist	300.00
Elijah McDavid	Janitor	600.00
Eunice McDavid	Maid	480.00
Alvina Mattison	Technical Assistant	100.00
Bertha Dillon	Telephone Operator	960.00
Margaret Porter	Technical Assistant	935.00
Wilhelmine Werdelman	Supervising Nurse	125.00
Alice Stemen	Nurses' Helper	540.00
Josephine Roberts	Supervising Nurse	638.87
Velma Johnson	Assistant to Instructor of Nursing Procedures	92.14

ROTARY 77

Marian J. Cook	Scholar	166.67
Ward L. Studor	Scholar	166.67
Jack T. Frost	Scholar	500.01

ROTARY 41

I. P. Blauser	Secretary and Field Manager	3,300.00

ROTARY 88

Fred Speer	Research Fellow	750.00

ROTARY 37

Harry D. Foster	Research Engineer	3,600.00
D. B. Hall	Junior Research Engineer	1,587.12
Tajamul Husain	Junior Research Engineer	5.25

ROTARY 20

Chester R. Austin	Fellow	750.00

ROTARY 57

George A. Bole	Research Professor	1,000.00

ROTARY 15

Robert C. Hockett	Fellow	750.00

ROTARY 5

Robert M. Pearce	Fellow	750.00

ROTARY 39

Lilburn Allen	Fellow	300.00

ROTARY 8

Howser Cutler Hunt	Fellow	750.00

ROTARY 54—PRESSER FOUNDATION

Ruby Elzy	Scholar	250.00

ROTARY 14—BOARD OF CHRISTIAN EDUCATION

William A. Ashbrook	Fellow	1,000.00
Robert M. Bear	Fellow	600.00

ROTARY 6—BARRETT FELLOW

Robert Yoder	Fellow (12 mo.)	1,833.33

ROTARY 22—CALCIUM CHLORIDE FELLOW

Carl Shreve	Fellow (6 mo.)	500.00
Wilder D. Foster	Fellow	250.00

ROTARY 52—OHIO SALT COMPANY FELLOW

Joseph Koffolt	Fellow	900.00

ROBINSON FELLOWSHIP NO. 5056

Jack D. Ryder	Fellow	750.00

LORD FELLOWSHIP NO. 5054

Arthur P. Watts	Fellow	250.00

UNIVERSITY PRESS—PRINTING DEPARTMENT

Charles E. Watts	Foreman	3,200.00
R. W. Hodgson	Printer	2,808.00
C. D. Kalb	Printer	2,496.00
Joseph A. Krebs	Printer	2,348.00
Clyde Hodgson	Printer	2,444.00
Irvin G. Stein	Linotype Machinist Operator	2,652.00
W. R. Stephens	Linotype Operator	2,496.00
W. H. Ziebold	Linotype Operator	2,444.00
Frank A. Huff	Compositor	2,496.00
Albert P. Taylor	Pressman	2,496.00
W. J. Monroe	Pressman	2,444.00
Verne Osborne	Press Feeder	1,976.00
Elsie Rigby	Job Press Feeder	1,144.00
Charles W. Thompson	Bindery Foreman	2,704.00
William Taylor	Bookbinder	2,444.00
Anna B. Logan	Bindery and Pressroom Woman	403.00
Clara B. Harding	Bindery Woman	1,560.00
Louise Bierstedt	Bindery Woman	1,196.00

Frank Jones	Apprentice	1,300.00
Bertha Brown	Bindery Woman	1,144.00
Tracy Burke	(Night) Linotype Operator	2,548.00
Eileen Morrisey	Stenographer	1,200.00
Walton O. Weaver	Apprentice Printer	260.00
Lowell A. Burke	Apprentice Printer	260.00
Augusta McCoy	Bindery Woman	476.67
Cecile E. Trace	Bindery Woman	476.67
Florien H. Brooks	Bindery Woman	476.67
Effie L. Schug	Bindery Woman	476.67
Emma L. Crego	Bindery Woman	498.33
Mildred Schumacher	Proofreader	476.67
Jeannette A. Reed	Proofreader	650.00
Clyde W. Beymer	Assistant Pressman	823.33
Christ Jenkins	Assistant Pressman	910.00
Charles Gerhardt	Job Pressman	1,018.33
Charles E. Taylor	Folding Machine Operator	1,018.33
Vinton J. Gerhardt	Printer	1,018.33
Elmer V. English	Bookbinder	1,018.33
William E. Hull	Printer	1,105.00
Roy E. Eichbaum	(Night) Linotype Operator	884.00
Roy E. Campbell	(Night) Linotype Operator	1,105.00
Ray G. Burgoon	(Night) Linotype Operator	1,105.00
Paul J. Steinberger	Linotype Operator	1,105.00
Arthur E. Dunn	Bookbinder	1,018.33
Fred E. Plimell	(Night) Linotype Operator	1,026.07
Florence M. Andrews	Editorial Assistant	603.57
Gertrude Roehrer	Bindery Woman	439.21
John S. Murray	Folding Machine Operator	814.66
Theresa Dague	Bindery Woman	365.95
Cary Smith Ellison	Janitor	347.74

STORES AND RECEIVING

GENERAL STORE ROOM

Charles Pugh	Stock Clerk (Laborer)	1,500.00
Frank Langworthy	Laborer	1,360.00
H. O. Baker	Laborer	1,320.00
W. D. Myers	Laborer	1,260.00
C. A. Starkey	Laborer	1,260.00
Wilma L. Mulby	Stenographer	1,260.00
D. R. Masters	Janitor	1,200.00
R. J. Davis	Laborer	652.50
Joseph Paquin	Laborer	441.07

LABORATORY SUPPLY STORE

C. W. McClintock	Storekeeper	3,500.00
H. W. Miller	Pharmacist	2,260.00
L. S. Gormley	Pharmacist	2,260.00
Frank D. Brill	Pharmacist	2,260.00
Leslie W. Rees	Pharmacist	500.00
Fred L. Williams	Pharmacist	1,900.00
R. B. Leonard	Glass Blower	2,400.00
William E. Leonard	Glass Blower's Helper	1,380.00
H. L. Allison	Laborer	1,680.00
John E. Swain	Laborer	1,140.00
Amaza H. Sells	Laborer	1,140.00
Clara Fleischer	Clerk	1,440.00
Stenna A. Hiler	Clerk	1,080.00
Donald C. VanDyke	Pharmacist	1,700.00
Lowell H. Ruff	Pharmacist	1,834.00

Elizabeth A. Zeier	Stenographer	990.00
Charles Kidwell	Laborer	990.00
Raymond Roush	Laborer	666.66
Joseph Luckhaupt	Laborer	640.00

MEDICAL PRO RATA

Amos E. Luckhaupt	Lecture Assistant	1,800.00
Hugh B. McGlade	Storekeeper	1,500.00
Melvin L. Babb	Pharmacist	1,000.00
Orville Dart	Diener	900.00
Joseph R. Myerson	Pharmacist	750.00
Alice Rush	Student Assistant	100.00
Maynard O. Brown	Pharmacist	430.00

AGRICULTURAL EDUCATION—SMITH-HUGHES

W. F. Stewart	Professor (part salary)	2,000.00
H. G. Kenestrick	Assistant Professor	3,300.00
A. C. Kennedy	Instructor	3,000.00
E. O. Bolender	Instructor	3,000.00
F. J. Ruble	Instructor	2,900.00
R. G. McMurray	Instructor	2,800.00
Howard McClarren	Instructor	2,800.00
Beatrice M. Geiler	Stenographer	315.00
Helen Pyle Killworth	Stenographer	855.00

HOME ECONOMICS—SMITH-HUGHES

Alice M. Donnelly	Assistant Professor (part salary)	1,500.00
Clara M. Bancroft	Assistant Professor	2,700.00
Hazel H. Huston	Assistant Professor	2,800.00
Esther Loomis	Instructor	2,350.00
Louise S. Wolfram	Instructor	2,250.00
Estelle Barton	Instructor (10 mo.)	1,675.00
Margaret Black	Instructor (3 mo.)	624.00
Marie Kuglen	Stenographer	1,300.00
Elizabeth M. Moore	Assistant	900.00

APPENDIX V

THE WORK OF INSTRUCTORS—1928-1929

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
ACCOUNTING												
Elements of Accounting	...	...	...	401	5	208	401	5	181	401	5	160
Elements of Accounting	...	...	...	402	5	63	402	5	154	402	5	135
Problems in Cost Accounting	...	...	...	405	5	56	405	5	38	...	...	...
Advanced Principles of Accounting	601	5	17	601	5	73	601	5	65	601	5	56
Principles of Accounting	...	...	...	602	5	18	602	5	31	602	5	18
Cost Accounting	603	5	10	603	5	18	603	5	43	...	...	...
Cost Accounting	604	4	9	...	...	...	604	4	12	604	4	40
Problems in Cost Accounting	...	...	...	605	3	7	...	...	...	...	...	...
Institutional Accounting	...	...	...	...	...	...	...	...	...	606	5	4
Auditing	607	2	6	607	2	12	607	2	9	...	...	...
Auditing	608	2	8	...	...	...	608	2	6	608	2	11
Cost Accounting Systems	...	...	...	610	3	...	610	3	...	610	3	...
Income Tax Accounting	...	...	...	611	2	8	...	...	...	611	2	26
Constructive Accounting	...	...	...	612	4	12	...	...	...	612	4	14
Accounting Practice	613	4	5	613	4	12	613	4	11	...	...	...
Accounting Practice	...	...	...	...	...	...	614	4	6	614	4	13
Business Statements	...	...	...	616	3	11	...	...	...	616	3	68
Managerial Accounting	...	...	...	...	...	...	617–18	3	4	617–18	3	7
Fiduciary Accounting	...	...	...	621	2	...	621	2	...	621	2	...
Advanced Accounting Theory	...	...	...	622	3	...	622	3	...	622	3	...
Retail Accounting	...	...	...	623	3	5	...	...	...	...	...	...
Factory Costs	...	...	...	...	...	...	...	...	...	624	5	54
Research in Accounting	...	...	...	801	3	1	801	3	1	...	...	...
Research in Accounting	...	...	...	802	3	...	802	3	...	802	3	...
Research in Accounting	...	...	...	...	...	...	...	...	...	803	3	1
Graduate Seminary in Accounting		...	...	804–5–6	2	1	804–5–6	2	1	...	...	...
AGRICULTURAL CHEMISTRY												
General Agricultural Chemistry	...	...	...	401	5	38	401	5	34	401	5	28
Household Chemistry	...	...	...	402	5	38	402	5	45	402	5	17
Household Chemistry	...	...	...	403	5	18	403	5	32	403	5	43
Introductory Agricultural Analysis	404	3	...	404	3	...	404	3	...	404	3	...
Principles of Animal Nutrition	405	3	...	405	3	...	405	3	...	405	3	...
General Biological Chemistry	...	...	...	...	...	...	601	5	35	...	...	...

Food Inspection and Analysis	...	...	...	602	5	8	...	...	...	...	...	...
Food Inspection and Analysis	...	...	...	...	...	...	603	5	3	...	...	...
Dairy Chemistry	604*	5	...	604*	5	...	604*	5	...	604*	5	...
Dairy Chemistry	605*	5	...	605*	5	...	605*	5	...	605*	5	...
Advanced Dairy Chemistry	606*	5	...	606*	5	...	606*	5	...	606*	5	...
Chemistry of Nutrition	...	...	...	...	...	...	...	...	...	607	5	9
Animal Nutrition	608	5	...	608	5	...	608	5	...	608	5	...
Special Problems	...	...	...	701	3–15	4	701	3–15	6	701	3–15	6
Plant Chemistry	...	...	...	...	...	...	...	...	...	801	5	5
Special Problems	...	...	...	802	5–15	6	802	5–15	2	802	5–15	2
Research	...	...	...	803	5–10–15	2	803	5–10–15	2	803	5–10–15	7
Seminary	...	...	...	804	1	6	804	1	5	...	...	...
AGRICULTURAL EDUCATION												
Principles Applied to the Teaching of Vocational Agriculture in Secondary Schools	400	5	5	...	...	...	401	5	17	400	5	14
Teaching of Vocational Agriculture in Secondary Schools	401	5	2	401	5	13	...	...	...	401	5	10
Observation of the Teaching of Vocational Agriculture	...	...	...	402	5	5	402	5	6	402	5	9
Supervised Teaching of Vocational Agriculture	...	...	...	403	5	5	403	5	6	403	5	9
Special Methods of Teaching Vocational Agriculture in Secondary Schools	601	5	8	...	...	...	601	5	8	601	5	10
History of Agricultural Education	602	5	4	...	...	...	...	...	...	...	...	...
Agricultural Education and the Vocational Education Movement	603*	5	9	603*	5	...	603*	5	...	603*	5	...
Special Problems	801	3–12	5	801	3–12	2	801	3–12	2	801	3–12	2
AGRICULTURAL ENGINEERING												
Field Machinery	...	...	...	401	5	43	401	5	48	401	5	6
Agricultural Drawing	...	...	...	402	3	29	402	3	45	402	3	25
Farm Motors and Tractors	...	...	...	...	...	...	404	5	20	404	5	4
Farm Utilities	...	...	...	...	...	...	405	5	10	...	...	...
Household Mechanics	406	5	...	406	5	...	406	5	...	406	5	...
Dairy Mechanics	...	...	...	408	3	4	...	...	...	...	...	...
Farm Structures	...	...	...	602	5	8	...	...	...	...	...	...
Advanced Farm Power and Power Machinery	...	...	...	603	5	14	...	...	...	...	...	...
Farm Drainage	...	...	...	...	...	...	...	...	...	604	5	11
Advanced Field Machinery	...	...	...	...	...	...	...	...	...	605	5	10
Special Problems	...	...	...	701	3–15	4	701	3–15	8	701	3–15	7
Research	...	...	...	...	...	...	801–2–3	3–10	1	...	...	...
ANATOMY												
Comparative Anatomy of the Vertebrates	...	...	...	401	5	61	...	...	...	...	...	...
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	402	5	19	...	...	...
Comparative Vertebrate Embryology	...	...	...	403	5	13	...	...	...	...	...	...
Comparative Vertebrate Embryology	...	...	...	...	...	...	404	5	36	...	...	...
Comparative Anatomy and Embryology	...	...	...	...	...	...	406	5	120	...	...	...
Comparative Anatomy and Embryology	...	...	...	...	...	...	...	...	...	407	5	80

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Elementary Neurology	...	...	...	408	5	13	...	...	...	...	...	...
Elementary Neurology	...	...	...	...	...	...	409	5	3	...	...	...
Visceral Anatomy	...	...	...	410	3	37	...	...	...	...	...	...
Microscopic Technic	...	...	...	...	...	...	411	5	9	...	...	...
Elementary Human Anatomy	...	...	...	...	...	...	...	...	...	412	5	44
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	...	...	...	413	5	55
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	414	5	97	...	...	...
The Eye	...	...	...	...	...	...	...	...	...	437	4	7
Human Anatomy	...	...	...	438	7	51	...	...	...	...	...	...
Human Anatomy	...	...	...	...	...	...	439	7	46	...	...	...
Histology	...	...	...	...	...	...	...	...	...	440	7	63
Seminary	...	...	...	601–2–3	1	...	601–2–3	1	...	601–2–3	1	...
Advanced Comparative Anatomy	...	...	...	604–5	3 or 5	4	604–5	3 or 5	2	...	...	...
Comparative Neurology	...	...	...	607	5	3	...	...	...	...	...	...
Comparative Neurology	...	...	...	608	5	...	608	5	...	608	5	...
Comparative Neurology	...	...	...	...	...	...	...	...	...	609	5	2
Cytology	...	...	...	611	5	2	...	...	...	...	...	...
Cytology	...	...	...	612	5	...	612	5	...	612	5	...
Human Anatomy	...	...	...	621	5	104	...	...	...	...	...	...
Human Anatomy	...	...	...	...	...	...	622	5	80	...	...	...
Gross Anatomy	...	...	...	...	...	...	...	...	...	623	5	68
Histology	...	...	...	624	5	110	...	...	...	...	...	...
Embryology	...	...	...	...	...	...	625	5	88	...	...	...
Neurology	...	...	...	...	...	...	...	...	...	626	5	78
Topographical Anatomy	...	...	...	627	5	79	...	...	...	...	...	...
Special Advanced Anatomy	...	...	...	...	...	...	628	3	4	...	...	...
Advanced Anatomy	...	...	...	801	5	...	801	5	...	801	5	...
Advanced Anatomy	...	...	...	802	5	...	802	5	...	802	5	...
Advanced Anatomy	...	...	...	803	5	...	803	5	...	803	5	...
Anatomical Problems	...	...	...	804	5	...	804	5	...	804	5	...
Anatomical Problems	...	...	...	805	5	...	805	5	...	805	5	...
Anatomical Problems	...	...	...	806	6	...	806	5	...	806	5	...
ANIMAL HUSBANDRY												
Elementary Live Stock Judging	...	...	...	401	5	72	401	5	21	401	5	23
Feeding Live Stock	...	...	...	402	5	38	402	5	27	402	5	20
Types and Breeds of Live Stock	...	...	...	...	...	...	...	...	...	403	5	31

Dairy Cattle Breeds	...	...	...	405	3	4	...	...	...	...	...	...
Breeds of Beef Cattle and Swine	...	...	...	...	...	...	...	...	...	406	3	6
Selection and Cutting of Meat	...	...	...	...	...	...	407	3	14	...	...	...
Breed of Sheep and Horses	...	...	...	408	3	...	408	3	...	408	3	...
Breeding Live Stock	...	...	...	...	...	...	...	...	...	409	5	36
Horse Production and Management	...	...	...	...	...	...	601	5	16	...	...	...
Beef Cattle Production and Management	...	...	...	602	5	7	...	...	...	...	...	...
Swine Production and Management	...	...	...	...	...	...	...	...	...	603	5	23
Dairy Cattle Production and Management	...	...	...	...	...	...	604	5	10	...	...	...
Sheep Production and Management	...	...	...	...	...	...	...	...	...	605	5	17
Advanced Live Stock Judging	...	...	...	606	5	12	...	...	...	...	...	...
Meats and Meat Products	...	...	...	...	...	...	607	5	9	...	...	...
Marketing Farm Animals	...	...	...	608	5	11	...	...	...	...	...	...
Breeding Live Stock	...	...	...	...	...	...	609	5	14	...	...	...
Herd Book Study	...	...	...	611	3	...	611	3	...	611	3	...
Advanced Dairy Cattle Judging	...	...	...	...	...	...	...	...	...	615	3	11
Special Problems	...	...	...	701	3–15	15	701	3–15	2	701	3–15	14
Research Work	...	...	...	801	3–15	2	801	3–15	1	801	3–15	1
Special Problems	...	...	...	...	...	...	702	3–5	3	...	...	...
Research Work	...	...	...	...	...	...	803	3–15	1	...	...	...
Winter Course	...	...	...	...	...	...	...	...	47	...	...	...
APPLIED OPTICS												
Theoretical Optics	...	...	...	401	5	5	...	...	...	...	...	...
Theoretical Optics	...	...	...	...	...	...	402	5	5	...	...	...
Theoretical Optics	...	...	...	...	...	...	...	...	...	403	5	5
Vision Optics	...	...	...	411–13	4	6	411–13	4	6	411–13	4	6
Theoretical Applied Optics	...	...	...	421–23	3	8	421–23	3	8	421–23	3	8
Mechanical Optics	...	...	...	431–33	2	8	431–33	2	8	431–33	2	7
Clinical Laboratory Practice	...	...	...	441–43	5	8	441–43	5	8	441–43	5	7
Advanced Applied Optics	...	...	...	601–2–3	4	...	601–2–3	4	...	601–2–3	4	...
ARCHITECTURE												
Perspective	...	...	...	...	...	...	402	3	50	...	...	...
Composition	...	...	...	...	...	...	...	...	...	403	3	38
Summer Work	419	5	...	...	...	...	...	...	...	...	...	...
Elements of Architecture	...	...	...	420	8	55	...	...	...	420	8	13
Order Problems	...	...	...	422	5	10	422	5	27	422	5	14
Order Problems	...	...	...	423	5	13	423	5	13	423	5	22
History of Architecture	...	...	...	544	3	65	...	...	...	...	...	...
History of Architecture	...	...	...	...	...	...	545	3	52	...	...	...
History of Architecture	...	...	...	...	...	...	...	...	...	545	3	41
Photography	...	...	...	611	3	29	...	...	...	611	3	41
Summer Work	620	5	...	...	...	...	...	...	...	...	...	...
Architectural Design	...	...	...	624	5	20	624	5	11	624	5	7
Architectural Design	...	...	...	625	5	3	625	5	17	625	5	9
Architectural Design	...	...	...	626	8	4	626	8	2	626	8	15
Construction: Wood	...	...	...	...	...	...	...	...	...	630	5	14
Construction: Timber Framing	...	...	...	...	...	...	640	5	11	...	...	...
Construction: Masonry	...	...	...	...	...	...	...	...	...	641	5	13
History of Architecture	...	...	...	647–8	3	23	647–8	3	21	...	...	...

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Professional Practice	...	...	...	...	...	...	...	...	...	715	5	26
Thesis	...	...	...	718	5	1	...	...	...	718	5	10
Advanced Architectural Design	...	...	...	727	8	8	727	8	2	727	8	3
Advanced Architectural Design	...	...	...	728	8	1	728	8	2	728	8	3
Ornament	...	...	...	...	...	...	729	5	9	...	...	...
Construction: Masonry and Concrete	...	...	...	736	5	8	...	...	...	...	...	...
Building Sanitation	...	...	...	...	...	...	737	2	25	...	...	...
Construction: Design	...	...	...	742	5	21	...	...	...	...	...	...
Construction: Design	...	...	...	...	...	...	743	5	20	...	...	...
Fire Protection	...	...	...	...	...	...	748	2	18	...	...	...
Advanced Photography	...	...	...	...	...	...	750	3	4	...	...	...
ASTRONOMY												
General Astronomy	...	...	...	401	5	51	401	5	43	401	5	11
General Astronomy	...	...	...	402	5	8	402	5	36	402	5	28
Practical Astronomy	...	...	...	405	3 or 5	2	...	...	...	...	...	...
Introduction to Celestial Mechanics	...	...	...	...	...	...	605	5	2	...	...	...
Introduction to Celestial Mechanics	...	...	...	...	...	...	...	...	...	606	5	1
Advanced Astronomy	...	...	...	607–8	3 or 5	...	607–8	3 or 5	...	607–8	3 or 5	...
Stellar Astronomy	...	...	...	...	...	...	...	...	...	609	5	3
Stellar Astronomy	...	...	...	610	5	...	610	5	...	610	5	...
Minor Investigations	...	...	...	611	3–5	...	611	3–5	...	611	3–5	...
BACTERIOLOGY												
Bacteriology	...	...	...	...	...	...	405	3	38	...	...	...
General Bacteriology	...	...	...	431	5	31	...	...	...	...	...	...
Pathogenic Bacteriology	...	...	...	...	...	...	432	5	34	...	...	...
Bacteriology	...	...	...	...	...	...	...	...	...	450	5	76
General Bacteriology	607	5	58	607	5	90	...	...	...	607	5	30
Pathogenic Bacteria	608	3	58	...	...	...	608	3	49	...	...	...
Pathogenic Bacteria	609	3	21	...	...	...	609	3	14	...	...	...
Dairy Bacteriology	...	...	...	...	...	...	610	3	8	...	...	...
Dairy Bacteriology	...	...	...	...	...	...	611	3	8	...	...	...
Soil Bacteriology	...	...	...	...	...	...	...	...	...	612	3	2
Soil Bacteriology	...	...	...	613	3	...	613	3	...	613	3	...
Water Examination Sewage Disposal, Water Filtration	...	...	...	...	...	...	614	3	5	...	...	...

Water Examination, Sewage Disposal, Water Filtration	...	...	...	...	...	...	615	3	1	...	...	...
Bacteriological Chemistry	...	...	...	616*	3	...	616*	3	...	616*	3	...
Immunity and Serum Therapy	...	...	...	617	3	35	...	...	...	617	3	70
Immunity and Serum Therapy	...	...	...	...	...	...	...	...	...	618	3	13
Pathogenic Protozoa	...	...	...	...	...	...	...	...	...	619	3	18
Bacteriological Chemistry	...	...	...	620*	3	...	620*	3	...	620*	3	...
Advanced Dairy Bacteriology	...	...	...	...	...	...	...	...	...	621–2–3	5	1
Special Technic in Pathogenic Bacteriology	...	...	...	625–6	5	6	625–6	5	5	...	...	...
Special Problems in Pathogenic Bacteriology	...	...	...	627	5	...	627	5	...	627	5	...
Advanced Soil Bacteriology	...	...	...	628–30	5	...	628–30	5	...	628–30	5	...
Medical Bacteriology	...	...	...	641	5	83	...	...	...	...	...	...
Medical Bacteriology	...	...	...	...	...	...	642	3	80	...	...	...
Special Technic in Veterinary Pathogenic Bacteriology	...	...	...	643–4–5	5	16	643–4–5	5	17	643–4–5	5	17
Minor Investigations	...	...	...	701	3–5	2	...	...	...	701	3–5	1
Minor Investigations	...	...	...	...	...	...	702	5–10	4	...	...	...
Minor Investigations	...	...	...	...	...	...	...	...	...	703	3–5	6
Research Work in Pathogenic Bacteriology	...	...	...	...	...	...	801–2–3	5–10	5	801–2–3	5–10	3
Research Work in Agricultural or in Technical Bacteriology	...	...	...	804–5–6	5–10	...	804–5–6	5–10	...	804–5–6	5–10	...
BOTANY												
General Botany	401	5	39	401	5	542	401	5	188	401	5	233
General Botany	402	5	42	402	5	146	402	5	456	402	5	204
Local Flora	...	...	...	...	...	...	...	...	...	405	5	30
Local Flora	...	...	...	...	...	...	...	...	...	406	5	27
General Morphology of Thallophytes and Bryophytes	409	5	...	409	5	...	409	5	...	409	5	...
General Morphology of the Pteridophytes and Spermatophytes	...	...	...	...	...	...	410	5	8	...	...	...
Plant Physiology	...	...	...	415	5	51	...	...	...	...	...	...
Plant Physiology	...	...	...	...	...	...	416	5	30	...	...	...
General Plant Pathology	...	...	...	419	5	12	...	...	...	419	5	32
Plant Microtechnic	...	...	...	...	...	...	...	...	...	421	5	7
Economic Plant Geography	423*	3	...	423*	3	...	423*	3	...	423*	3	...
Plant Ecology	601	5	16	601	5	16	...	...	...	...	...	...
Plant Ecology	...	...	...	...	...	...	...	...	...	602	5	10
Principles of Taxonomy: Pteridophytes and Gymnosperms	...	...	...	607	6	6	...	...	...	...	...	...
Principles of Taxonomy: Monocotyls	...	...	...	...	...	...	608	5	4	...	...	...
Principles of Taxonomy: Dicotyls	...	...	...	...	...	...	...	...	...	609	5	2
Evolution of Plants	...	...	...	...	...	...	...	...	...	611	5	6
Plant Microchemistry	...	...	...	617	5	6	...	...	...	...	...	...
Economic Botany	...	...	...	619	5	6	...	...	...	...	...	...
Economic Botany	...	...	...	...	...	...	620	5	8	...	...	...
Physiological Methods	...	...	...	...	...	...	633	3	9	...	...	...
Plant Growth	...	...	...	...	...	...	...	...	...	634	3	13
Experimental Plant Genetics	635*	5	...	635*	5	...	635*	5	...	635*	5	...
Plant Anatomy	640*	5	...	640*	5	...	640*	5	...	640*	5	...
Experimental Plant Pathology	651	3	...	651	3	...	651	3	...	651	3	...

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Mycology	653	5	5	...	...	...	653	5	11	...	...	...
Diseases of Fruit Crops	655*	3	...	655*	3	...	655*	3	...	655*	3	...
Diseases of Garden Crops	...	...	...	...	...	...	657	3	8	...	...	...
Diseases of Farm Crops	659*	3	...	659*	3	...	659*	3	...	659*	3	...
Advanced Mycology	661–2	3	...	661–2	3	...	661–2	3	...	661–2	3	...
Freshwater Algae	665–6*	5	...	665–6*	5	...	665–6*	5	...	665–6*	5	...
Advanced Plant Genetics	670	5	...	670	5	...	670	5	...	670	5	...
Special Problems: Taxonomy	...	...	...	...	...	...	...	...	...	701–5	2–5	12
Minor Investigations: Taxonomy	...	...	...	...	...	...	701	2–5	3	...	...	...
Minor Investigations: Morphology	...	...	...	...	...	...	702	2–5	4	...	...	...
Minor Investigations: Physiology and Ecology	703	2–5	2	703	2–5	1	703	2–5	16	...	...	...
Minor Investigations: Pathology and Mycology	...	...	...	704	2–5	2	704	2–5	3	...	...	...
Minor Investigations: Economic Botany	705	2–5	3	705	2–5	2	705	2–5	2	...	...	...
Research in Systematic Botany	...	...	...	...	...	...	...	...	...	801–6	3–10	8
Research in Systematic Botany	...	...	...	801	3–10	2	801	3–10	1	...	...	...
Research in Morphology and Cytology	...	...	...	...	...	...	802	4–10	1	...	...	...
Research in Physiology and Ecology	803	4–10	5	803	4–10	3	803	4–10	6	...	...	...
Research in Mycology and Plant Pathology	804	4–10	...	804	4–10	...	804	4–10	...	804	4–10	...
Research in Genetics	...	...	...	...	...	...	805	4–10	1	...	...	...
Research in Economic Botany	806	4–10	5	...	...	...	...	...	...	...	...	...
Botanical Seminary	...	...	...	810	1	12	810	1	9	810	1	7
BUSINESS ORGANIZATION												
Social Science	...	...	...	400	5	327	400	5	187	400	5	140
Social Science	401	5	27	401	5	106	401	5	196	401	5	208
Business Communications and Adjustment Practice	604	3	43	604	3	50	604	3	36	604	3	71
Business Communications and Adjustment Practice	...	...	...	605*	3	...	605*	3	...	605*	3	...
Secretarial Problems	...	...	...	606–7	3	...	606–7	3	...	606–7	3	...
Business Statistics	...	...	...	614	3	6	...	...	...	614	3	11
Business Statistics	...	...	...	...	...	...	616	3	5	...	...	...
Public Aspects of Industry	...	...	...	...	...	...	620	1	138	...	...	...
Business Law: Contracts	...	...	...	621	3	85	621	3	112	621	3	95
Business Law: Agency and Sales	...	...	...	623	3	33	623	3	62	623	3	79
Business Law: Negotiable Instruments	...	...	...	625	3	33	625	3	22	625	3	45

Business Law: Partnerships and Corporations	...	...	...	627	3	17	...	...	...	...	...	...
Business Law: Legal Aspects of Credit and Collections	...	...	...	...	...	...	...	...	...	629	3	18
Business Law: The Law of Banks and Banking	...	...	...	...	...	...	631	3	8	...	...	...
Business Organization and Control	640	3	14	640	3	40	640	3	41	640	3	24
Real Estate Principles and Practice	...	...	...	642	3	18	...	...	...	642	3	17
Real Estate Principles and Practice	...	...	...	...	...	...	643	3	7	...	...	...
Real Estate Problems	...	...	...	...	...	...	644	1–3	1	...	...	...
Trade Associations	...	...	...	...	...	...	645	3	14	...	...	...
Corporation Finance	650	5	25	650	5	57	650	5	58	650	5	107
Industrial Finance	...	...	...	...	...	...	...	...	...	652	3	40
Railroad and Public Utility Finance	...	...	...	...	...	...	656	3	23	...	...	...
Investments	...	...	...	658	3	8	...	...	...	658	3	25
Bond House Organization and Management	...	...	...	659*	3	...	659*	3	...	659*	3	...
The Stock Market	...	...	...	660	3	18	...	...	...	660	3	42
The Money Market	...	...	...	...	...	...	...	...	...	662	3	15
Foreign Exchange	...	...	...	...	...	...	665	3	16	...	...	...
Practice Work in Banking	...	...	...	666	1–3	3	...	...	...	...	...	...
Practice Work in Banking	...	...	...	...	...	...	667–8	1–3	2	667–8	1–3	1
Bank Organization and Management	...	...	...	...	...	...	670	3	7	...	...	...
Savings and Trust Institutions	...	...	...	674	5	6	...	...	...	...	...	...
Industrial Organization and Management	...	...	...	680	5	36	680	5	80	...	...	...
Industrial Organization and Management	...	...	...	681	3	...	681	3	...	681	3	...
Industrial Management Field Work	...	...	...	684	3–6	13	684	3–6	1	684	3–6	20
Material Organization and Management	...	...	...	685	3	8	685	3	9	...	...	...
Employment Organization and Management	...	...	...	686	3	11	...	...	...	686	3	8
Production Organization and Management	...	...	...	...	...	...	687	4	3	687	4	22
Office Organization and Management	...	...	...	...	...	...	691	3	41	...	...	...
Time and Motion Study	...	...	...	692	3	...	692	3	...	692	3	...
Problems in Employment Organization and Management	...	...	...	695–6	1–3	1	695–6	1–3	1	...	...	...
Industrial Problems	...	...	...	...	...	...	...	...	...	697	1–3	2
Marketing	700	5	26	700	5	89	700	5	87	700	5	74
Marketing Problems and Market Analysis	...	...	...	702	3	32	702	3	40	702	3	38
Retailing and Wholesaling	...	...	...	705	5	31	705	5	14	705	5	20
Retailing and Wholesaling	...	...	...	...	...	...	...	...	...	706	5	17
Credits and Collections	...	...	...	709	3	17	709	3	28	709	3	21
Salesmanship	712	3	19	712	3	23	712	3	40	712	3	45
Principles of Advertising	...	...	...	716	3	28	716	3	46	716	3	36
Advertising Practice	...	...	...	...	...	...	...	...	...	717	3	17
Retail Advertising	...	...	...	719*	3	...	719*	3	...	719*	3	...
Exporting and Importing	...	...	...	...	...	...	...	...	...	720	3	24
Exporting and Importing	...	...	...	721	3	10	...	...	...	...	...	...
Field Work in Marketing	...	...	...	725	3–6	...	725	3–6	...	725	3–6	...
Thesis in Marketing and Advertising	726–7–8	1–3	1	726–7–8	1 3	2	726–7–8	1–3	5	...	...	...
Railway and Public Utility Organization and Administration	...	...	...	...	...	...	740	3	11	...	...	...
Port and Terminal Problems	...	...	...	...	...	...	744	3	11	...	...	...
Ocean and Inland Water Commerce and Transportation	...	...	...	745	3	11	...	...	...	...	...	...
Traffic Management and Rate Making	...	...	...	...	...	...	752	3	17	...	...	...

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Valuation and Rate Problems of Railroads and Public Utilities	...	...	...	748	3	...	748	3	...	748	3	...
Traffic Management and Rate Making	...	...	...	...	...	...	...	...	...	753	3	6
Life Insurance	...	...	...	...	...	...	760	3	26	...	...	...
Fire and Marine Insurance	...	...	...	762	3	...	762	3	...	762	3	...
Casualty and Miscellaneous Insurance	...	...	...	764	3	...	764	3	...	764	3	...
Practice Work in Insurance	...	...	...	767–8–9	1–3	...	767–8–9	1–3	...	767–8–9	1–3	...
Research in Corporation Organization and Finance	801–2–3	1–6	2	801–2–3	1–6	3	801–2–3	1–6	2	...	...	...
Railway Service and Regulation	...	...	...	805–6–7	1–3	3	805–6–7	1–3	3	805–6–7	1–3	2
Public Utility Rate Making and Management of Public Utilities	...	...	...	809–11	1–6	1	809–11	1–6	2	809–11	1–6	1
Insurance Problems	...	...	...	814–15	1–6	...	814–15	1–6	...	814–15	1–6	...
Research in Marketing	817–19	1–6	7	817–19	1–6	7	817–19	1–6	10	817–19	1–6	11
Research in Banking	...	...	...	821–23	1–3	3	821–23	1–3	4	821–23	1–3	10
Research in Advertising and Sales	...	...	...	824–26	1–6	...	824–26	1–6	...	824–26	1–6	...
Graduate Seminary in Business Organization	831–33	1–6	13	831–33	1–6	10	831–33	1–6	11	831–33	1–6	8
Research in Industrial Management	...	...	...	835–37	1–6	2	835–37	1–6	2	835–37	1–6	2
CERAMIC ENGINEERING												
Occurence and properties of Clays	...	...	...	...	...	...	401	4	38	...	...	...
Winning, Preparation and Forming	...	...	...	...	...	...	...	...	...	405	4	32
Industrial Experience	...	...	...	430	5	...	430	5	...	430	5	...
Industrial Experience	...	...	...	431	5	...	431	5	...	431	5	...
Drying and Burning	...	...	...	...	...	...	601	5	32	...	...	...
Bodies, Glazes and Colors	...	...	...	...	...	...	...	...	...	605	4	31
Refractories and Furnaces	...	...	...	...	...	...	...	...	...	610	5	25
Ceramic Calculations	...	...	...	615	5	31	...	...	...	...	...	...
Physical and Chemical Measurements of Clays and Other Ceramic Materials	...	...	...	...	...	...	620	5	28	...	...	...
Advanced Physical and Chemical Measurements of Clays and Other Ceramic Materials	...	...	...	621	3	...	621	3	...	621	3	...
Junior Inspection Trip	...	...	...	...	...	...	...	...	...	630	...	28
Laboratory Work in Ceramics	...	...	...	701	5	28	...	...	...	...	...	...
Laboratory Work in Ceramics	...	...	...	...	...	...	702	5	27	...	...	...
Laboratory Work in Ceramics	...	...	...	...	...	...	...	...	...	703	5	19
Laboratory Work in Ceramics	...	...	...	...	...	...	...	...	...	704	5	14
Ceramic Designing	...	...	...	705	5	27	...	...	...	...	...	...

Ceramic Designing	...	...	...	...	...	...	706	5	28	707	5	25
Ceramic Designing	...	...	...	...	...	...	710	2	19	710	2	1
Thesis	...	...	...	711	5	2	...	...	...	711	5	19
Thesis	...	...	...	...	...	...	...	...	...	730	...	27
Senior Inspection Trip	...	...	...	801–2–3	3–10	1	801–2–3	3–10	3	801–2–3	3–10	1
Research Work	...	...	...	805–6–7	2	...	805–6–7	2	...	805–6–7	2	...
Testing of Clays with Reference to Their Industrial Adapatiblity	...	...	...	810–12	2	1	810–12	2	1	810–12	2	1
Porcelain for Electrical and Other Special Purposes	...	...	...	815–17	2–5	...	815–17	2–5	...	815–17	2–5	...
Advanced Experimental Work	...	...	...	...	6–12	3	...	...	...	...	6–12	2
Master's Thesis	...	...	...	...	3–10	2	...	...	...	...	3–10	2
Ph.D. Research	...	...	...									
CHEMICAL ENGINEERING												
Chemical Engineering Practice Work	...	...	...	501	5	26	...	...	...	...	...	...
Elements of Chemical Engineering	...	...	...	...	...	...	700	2	28	...	...	...
Industrial Chemistry	...	...	...	701	3	30	...	...	...	...	...	...
Industrial Chemistry	...	...	...	...	...	...	702	3	26	...	...	...
Inspection Trip to the East	...	...	...	...	...	...	...	...	...	703	...	43
Inspection Trip to the West	...	...	...	...	...	...	...	...	...	704*	...	...
Written Reports	...	...	...	705	...	...	705	...	...	705	...	...
Chemical Engineering and Industrial Chemistry Laboratory	...	...	...	706	5	21	...	...	...	...	...	...
Engineering Chemistry	...	...	...	...	...	...	707	3	20	...	...	...
Practical Experience in Chemical Engineering Work	...	...	...	...	...	...	...	...	...	708	6	1
Applied Electro-chemistry	...	...	...	...	...	...	...	...	...	710	3	5
Chemical Engineering Thesis	...	...	...	720	2	2	720	2	16	...	...	...
Chemical Engineering Thesis	...	...	...	...	...	...	721	5–6	1	721	5–6	14
Seminary in Industrial Chemistry	...	...	...	905–6–7	2	12	905–6–7	2	13	905–6–7	2	18
Industrial Chemistry and Chemical Research	...	...	...	950	2	7	950	2	15	950	2	16
CHEMISTRY												
Elementary Chemistry	401	5	26	401	5	634	401	5	113	...	...	...
Elementary Chemistry	402	5	21	...	...	...	402	5	507	402	5	96
Qualitative Analysis	...	...	...	...	...	...	...	...	...	403	5	245
General Chemistry	411	5	13	411	5	894	411	5	136	...	...	...
General Chemistry	412	5	9	...	...	...	412	5	689	412	5	104
Qualitative Analysis	413	5	23	...	...	...	...	...	...	413	5	483
Laboratory Technic	...	...	...	...	...	...	415	3	27	...	...	...
Quantitative Analysis	...	...	...	421–2–3	4	165	421–2–3	4	138	421–2–3	4	114
Problems in Quantitative Analysis	...	...	...	...	...	...	...	...	...	424	1	64
Organic Chemistry	441–2	3	32, 39	441–2	3	339	441–2	3	239	...	...	...
Organic Chemistry	444–5	2	33, 28	444–5	2	290	444–5	2	233	...	...	...
Organic Chemistry	447–8	3	27, 21	447–8	3	71	447–8	3	68	...	...	...
Organic Chemistry—Laboratory	449–50	3	23, 18	449–50	3	66	449–50	3	41	...	...	...
Physical Chemistry	...	...	...	...	...	...	...	...	...	460	5	103
Elementary Quantitative Analysis	...	...	...	...	...	...	...	...	...	561	5	17

* Not given in 1928–29.

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Reading of Chemical German	...	...	...	...	...	...	...	...	...	581	3	6
Advanced Quantitative Analysis	...	...	...	621	4–5	14	...	...	...	...	...	...
General Quantitative Analysis	...	...	...	...	...	...	622	3	22	...	...	...
Gas Analysis	...	...	...	623	*4–5	...	623	4–5	...	623	4–5	...
Advanced Qualitative Analysis	...	...	...	624	4–5	...	624	4–5	...	624	4–5	...
Water Analysis	...	...	...	...	...	...	...	...	...	625	5	17
Industrial Water Problems	...	...	...	...	...	...	627	3	9	...	...	...
Qualitative Organic Analysis	...	...	...	...	...	...	...	...	...	641	3	24
Quantitative Organic Analysis	...	...	...	...	.....	...	...	...	...	642	3	9
Advanced General Chemistry	...	...	...	...	...	...	662	3	27	...	...	...
The Rare Elements	...	...	...	663	3	24	...	...	...	...	...	...
Inorganic Preparations	...	...	...	...	...	...	...	...	...	672	3	28
The Phase Rule	...	...	...	675	3	...	675	3	...	675	3	...
Physical Chemistry	...	...	...	680	3	38	...	...	...	...	...	...
Physical Chemistry	681–2–3	3	29	681–2–3	3	56	681–2–3	3	57	681–2–3	3	53
Physical Chemistry: Laboratory	691–2–3	2	32	691–2–3	2	41	691–2–3	2	32	691–2–3	2	17
Colloid Chemistry	...	...	...	...	...	...	695	3	9	...	...	...
Theoretical Electrochemistry	...	...	...	696	3	10	...	...	...	...	...	...
Minor Problems in Chemistry	699	3–15	1, 2	699	3–15	3	699	3–15	4	699	3–15	8
Chemical Bibliography	782	1	32	...	...	...	782	1	22	...	...	...
Chemical Biography	783	1	33	...	...	...	...	...	...	783	1	28
Seminary in Analytical Chemistry	...	...	...	822	3	4	...	...	...	...	...	...
Advanced Organic Chemistry	...	...	...	841	3	29	...	...	...	...	...	...
Advanced Organic Chemistry	...	...	...	...	...	...	842	3	29	...	...	...
Advanced Organic Preparations: Laboratory	...	...	...	844	3–5	22	...	...	...	...	...	...
Advanced Organic Preparations: Laboratory	...	...	...	...	...	...	845	3–5	21	...	...	...
Seminary in Organic Chemistry	...	...	...	850	3	31	...	...	...	...	...	...
Seminary in Organic Chemistry	...	...	...	...	...	...	851	3	14	...	...	...
Seminary in Organic Chemistry	...	...	...	...	...	...	...	...	...	852	3	16
Seminary in Organic Chemistry	...	...	...	853*	2	...	853*	2	...	853*	2	...
Physical Chemistry: Laboratory	861–2–3	3	13	861–2–3	3	3	861–2–3	3	2	861–2–3	3	4
Atomic Structure	...	...	...	...	...	...	...	...	...	865	2	8
Seminary in Inorganic Chemistry	...	...	...	...	...	...	866	2	5	...	...	...
Seminary in Inorganic Chemistry	...	...	...	867	2	...	867	2	...	867	2	...
Advanced Lectures in Physical Chemistry	...	...	...	881–2–3*	3	...	881–2–3*	3	...	881–2–3*	3	...
Seminary in Colloid Chemistry	...	...	...	891	3	8	...	...	...	...	...	...
Seminary in Physical Chemistry	892	3	16	...	...	...	892	3	18	...	...	...
Historical Chemistry	930	3	21	...	...	...	930	3	16	...	...	...
Chemical Research	950	5–15	10	950	5–15	38	950	5–15	44	950	5–15	47

CIVIL ENGINEERING													
Land Surveying	...	...	...	401	5	60	401	5	14	...	...	...
Plane Surveying	...	...	...	...	...	...	402	5	49	402	5	10
Railroad Surveying	...	...	...	403	5	14	...	...	...	403	5	41
Topographic Drawing	...	...	...	414	4	10	404	4	47	...	...	...
Applied Descriptive Geometry	...	...	...	...	...	...	...	...	...	405	4	46
Summer Surveying Camp	407	6	...	...	...	...	...	...	...	...	...	...
Elementary Surveying	...	...	...	411	3	69	...	...	...	411	3	73
Surveying	...	...	...	412	5	6	...	...	...	...	...	...
Topographic Surveying	...	...	...	601	5	45	...	...	...	...	...	...
Sanitary Engineering	...	...	...	602	5	46	...	...	...	...	...	...
Timber Construction	...	...	...	...	...	...	603	5	45	...	...	...
Stresses in Structures	...	...	...	...	...	...	...	...	...	604	5	49
Roads and Pavements	...	...	...	...	...	...	...	...	...	605	5	45
Cement and Concrete	...	...	...	...	...	...	606	3	10	606	3	48
Summer Surveying Camp	607	6	...	...	...	...	...	...	...	...	...	...
Precise Surveying	...	...	...	608	3	41	...	...	...	...	...	...
Adjustment of Observations	...	...	...	...	...	...	609	3	43	...	...	...
Timber and Masonry	...	...	...	...	...	...	611	3	37	...	...	...
Concrete Design	...	...	...	701	5	36	...	...	...	...	...	...
Bridge Design	...	...	...	702	5	33	...	...	...	...	...	...
Water Supply Engineering	...	...	...	...	...	...	703	5	29	...	...	...
Masonry Construction	...	...	...	...	...	...	704	5	31	...	...	...
Masonry Structures	...	...	...	...	...	...	...	...	...	705	5	28
Thesis	...	...	...	706	1	28	708	1	...	706	1	...
Thesis	...	...	...	...	...	...	707	2	31	...	...	...
Thesis	...	...	...	708	5	8	708	5	1	708	5	29
Geodedic Engineering	...	...	...	709	3	...	709	3	...	709	3	...
Map Projection	...	...	...	710	3	...	710	3	...	710	3	...
Factory Building Construction	...	...	...	...	...	...	...	...	...	711	3	25
Trusses	...	...	...	712	5	9	712	5	51	712	5	25
Concrete Design	...	...	...	713	5	20	...	...	...	...	...	...
Steel-Frame Buildings	...	...	...	...	...	...	714	5	21	...	...	...
Railway Engineering	...	...	...	730	3	...	730	3	...	730	3	...
Railway Engineering	...	...	...	731	3	...	731	3	...	731	3	...
Contracts and Specifications	...	...	...	...	...	...	...	...	...	732	3	7
Tall Buildings	...	...	...	733	3	10	...	...	...	...	...	...
Advanced Bridges	...	...	...	...	...	...	734	3	26	...	...	...
Advanced Bridges	...	...	...	...	...	...	...	...	...	735	3	13
Municipal Engineering	...	...	...	736	3	11	...	...	...	...	...	...
Highway Plans and Surveys	...	...	...	738	3	8	...	...	...	...	...	...
Highway Materials	...	...	...	...	...	...	739	3	6	...	...	...
Highway Laboratory	...	...	...	740	2	...	740	2	...	740	2	...
Highway Design and Construction	...	...	...	...	...	...	...	...	...	741	3	5
Road Administration and Highway Economics	...	...	...	742	2	...	742	2	...	742	2	...
CLASSICAL LANGUAGES													
GREEK													
Elementary Greek	...	...	...	401	5	20	...	...	...	...	...	...
Elementary Greek	...	...	...	...	...	...	402	5	17	...	...	...
Plato	...	...	...	...	...	...	...	...	...	403	5	9
Homer	...	...	...	404	5	2	...	...	...	...	...	...

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Reading and Lectures	...	...	...	601	3–5	2	601	3–5	4	601	3–5	3
Private Reading and Minor Problems	...	...	...	...	...	...	610	2–5	3	...	...	...
Athenian Public Life	...	...	...	611*	3	...	611*	3	...	611*	3	...
Greek Art	...	...	...	650*	3	...	650*	3	...	650*	3	...
Greek Art	...	...	...	651	3	...	651	3	...	651	3	...
Greek Art	...	...	...	...	...	...	...	...	...	652	3	9
Greek Art	...	...	...	...	...	...	...	...	...	701	3	21
Prin. of the Historical Study of Language	...	...	...	720	3	2	...	...	...	...	...	...
Historical Greek and Latin Grammar	...	...	...	...	...	...	...	...	...	...	...	...
LATIN												
Elementary Latin	...	...	...	401	5	28	...	...	...	...	...	...
Elementary Latin and Caesar	...	...	...	...	...	...	402	5	27	...	...	...
Caesar	...	...	...	...	...	...	...	...	...	403	5	14
Cicero, Orations	...	...	...	404	5	12	...	...	...	...	...	...
Vergil	...	...	...	...	...	...	405	5	10	...	...	...
Cicero, Horace, Ovid	...	...	...	406	5	42	...	...	...	...	...	...
Horace, Livy, Gellius	...	...	...	...	...	...	407	5	21	...	...	...
Latin Comedy	...	...	...	...	...	...	...	...	...	408	5	13
Sallust	...	...	...	...	...	...	...	...	...	409	5	5
Medical Latin	...	...	...	...	...	...	...	...	...	410	3	39
Catullus, Pliny, Tacitus	...	...	...	501	3	17	...	...	...	...	...	...
Advanced Reading	...	...	...	...	...	...	...	...	...	503	3	11
Advanced Reading	...	...	...	...	...	...	504	3	12	...	...	...
Comparative Literature	...	...	...	...	...	...	...	...	...	506	3	15
Roman Private Life	...	...	...	507	3	17	...	...	...	...	...	...
Roman Art and Archaeology	...	...	...	...	...	...	508	3	19	...	...	...
Latin Satire	...	...	...	602	3	14	...	...	...	...	...	...
Legal Latin	...	...	...	605*	3	...	605*	3	...	605*	3	...
Historical Latin Grammar: Inflections	609	3	17	...	...	...	609	3	2	...	...	...
Roman Religion	610	3	13	610*	3	...	610*	3	...	610*	3	...
Roman Public Life	...	...	...	...	...	...	...	...	...	611	3	7
Latin Prose Composition: First Course	...	...	...	...	...	...	612	3	20	...	...	...
Latin Prose Composition: Second Course	...	...	...	...	...	...	...	...	...	613	3	17
Latin Prose Composition: Advanced Course	...	...	...	614*	3	...	614*	3	...	614*	3	...
Proseminary I	...	...	...	...	...	...	615	3	16	...	...	...
Proseminary II	...	...	...	...	...	...	...	...	...	616	3	16
Roman Elegy	...	...	...	620	3	4	...	...	...	...	...	...
Roman Tragedy	621	3	18	...	...	...	...	...	...	...	...	...
Roman Epic	...	...	...	...	...	...	622	3	4	...	...	...
Adv. Reading Course in the Post-Augustan Epic	...	...	...	623*	3	...	623*	3	...	623*	3	...

Advanced Reading Course in Tacitus	...	...	...	...	...	...	...	...	...	...	624	3	8
Advanced Prose Composition	...	...	...	624	3	10	...	...	...	...	...	...	...
Paleography	...	...	...	626	3	9	...	...	...	...	...	...	...
Vulgar Latin	...	...	...	...	...	...	627	3	10	...	...	...	...
History of Literary Tradition	...	...	...	629*	3	...	629*	3	...	629*	3	...	
Cicero's Political Philosophy	...	...	...	...	...	...	...	...	...	630	3	3	
Historical Greek and Latin Grammar	...	...	...	720	3	...	720	3	...	720	3	...	
Seminary in the Latin Epic	...	...	...	801*	3	...	801*	3	...	801*	3	...	
Seminary in the Latin Epic	...	...	...	802*	3	...	802*	3	...	802*	3	...	
Seminary in the Post-Augustan Epic	...	...	...	803*	3	...	803*	3	...	803*	3	...	
Seminary in the Latin Lyric	...	...	...	804*	3	...	804*	3	...	804*	3	...	
Seminary in the Latin Lyric	...	...	...	805*	3	...	805*	3	...	805*	3	...	
Seminary in the Latin Satire	...	...	...	806*	3	...	806*	3	...	806*	3	...	
Seminary in the Latin Historiography	...	...	...	807*	3	...	807*	3	...	807*	3	...	
Seminary in the Latin Drama	...	...	...	808	3	14	808	3	12	...	...	...	
Seminary in the Latin Philosophical Writers	...	...	...	...	...	...	...	...	...	809	3	10	
Seminary in Classical Archaeology	...	...	...	810*	3	...	810*	3	...	810*	3	...	
DAIRYING													
Principles of Dairying	...	...	...	401	5	35	401	5	51	401	5	19	
Farm Dairying	...	...	...	...	...	...	402	5	7	402	5	13	
Testing of Milk Products	...	...	...	...	...	...	...	...	...	403	5	4	
Buttermaking	...	...	...	...	...	...	...	...	...	405	5	5	
Dairy Practice	406	3–10	...	406	3–10	...	406	3–10	...	406	3–10	...	
Soft Cheese Making	...	...	...	...	...	...	407	3	4	...	...	...	
Dairy Mechanics	...	...	...	411	3	7	...	...	...	...	...	...	
City Milk Inspection	...	...	...	...	...	...	...	...	...	412	3	17	
Dairy Inspection Trip	...	...	...	602	3	2	...	...	...	602	3	8	
Management of Dairy Plants	...	...	...	...	...	...	605	3	6	...	...	...	
City Milk Supply	...	...	...	607	5	8	...	...	...	...	...	...	
Hard Cheese Making	...	...	...	...	...	...	608	5	8	...	...	...	
Milk Condensing	...	...	...	609	3	5	...	...	...	...	...	...	
Ice Cream Making	...	...	...	610	5	5	...	...	...	...	...	...	
Advanced Dairying	...	...	...	...	...	...	...	...	...	650	3–5	4	
Special Problems	...	...	...	701	3–15	4	...	...	...	701	3–15	6	
Special Problems	...	...	...	...	...	...	702–3	3–15	6	...	...	...	
Advanced Dairying	...	...	...	...	...	...	...	...	...	801	5–10	1	
OPERATIVE DENTISTRY													
Dental Anatomy	...	...	...	...	...	...	402	2	35	...	...	...	
Dental Anatomy and Operative Technic	...	...	...	...	...	...	...	...	...	403	3	35	
Operative Technic	...	...	...	405	3	81	...	...	...	...	...	...	
Operative Technic	...	...	...	...	...	...	406	3	89	...	...	...	
Principles and Practice of Operative Dentistry	...	...	...	409	5	60	...	...	...	...	...	...	
Principles and Practice of Operative Dentistry	...	...	...	...	...	...	410	5	60	...	...	...	
Principles and Practice of Operative Dentistry	...	...	...	...	...	...	...	...	...	411	5	64	
Principles and Practice of Operative Dentistry	...	...	...	413–15	4	51	413–15	4	53	413–15	4	51	
Dental Hygiene: Immunology	...	...	...	...	...	...	...	...	...	416	1	85	
Oral Hygiene	...	...	...	417–18	3	65	417–18	3	65	...	...	...	

* Not given in 1928–29.

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Porcelain Technic	...	...	...	...	...	...	...	...	...	419	1	66
Dental Medicine	...	...	...	421	1	64	...	...	...	...	...	...
Dental Medicine	...	...	...	...	...	...	422	1	68	...	...	...
Dental Medicine	...	...	...	...	...	...	...	...	...	423	2	67
Dental Medicine	...	...	...	425–27	2	55	425–27	2	56	425–27	2	55
Orthodontia Principles and Technic	...	...	...	...	...	...	...	...	...	431	2	63
Orthodontia Principles and Technic	...	...	...	433–35	2	54	433–35	2	54	433–35	2	53
Anesthetics	...	...	...	437–39	2	57	437–39	2	56	437–39	2	54
Ethics, Economics, History and Jurisprudence	...	...	...	441–43	1	56	441–43	1	57	441–43	1	52
Oral Surgery	...	...	...	445–47	2	54	445–47	2	56	445–47	2	53
Dental Pathology (See Pathology)	...	...	...	452	2	...	452	2	...	452	2	...
PROSTHESIS												
Prosthetic Dentistry Technic	...	...	...	401–2	4	42	401–2	4	35	...	...	...
Prosthetic Dentistry Technic	...	...	...	...	...	...	...	...	...	403	4	35
Prosthetic Dentistry Technic	...	...	...	405–6	3	84	405–6	3	72	...	...	...
Prosthetic Dentistry Principles and Practice	...	...	...	409–10	3	57	409–10	3	58	...	...	...
Prosthetic Dentistry Principles and Practice	...	...	...	...	...	...	...	...	...	411	3	59
Prosthetic Dentistry Practice	...	...	...	413–15	2	52	413–15	2	57	413–15	2	52
Dental Metallurgy	...	...	...	419	2	...	419	2	...	419	2	...
Crown and Bridge Technic	...	...	...	421–23	2	75	421–23	3	72	...	...	...
Crown and Bridge Technic	...	...	...	425–27	2	60	425–27	2	61	425–27	2	60
Crown and Bridge Technic	...	...	...	429–31	2	54	429–31	2	53	429–31	2	50
ECONOMICS												
Principles of Economics	401	5	29, 40	401	5	412	401	5	223	401	5	200
Principles of Economics	402	5	23, 25	402	5	142	402	5	300	402	5	203
Principles of Economics for Engineers	...	...	...	403	3	58	403	3	40	...	...	...
Principles of Economics for Engineers	...	...	...	...	...	...	404	3	46	404	3	25
Principles of Economics for Agricultural Students	...	...	...	405	5	20	405	5	40	...	...	...
Principles of Economics for Students in Home Economics	...	...	...	407	5	45	407	5	21	407	5	45
American Economic History	...	...	...	...	...	...	...	...	...	408	5	19
Outlines of Public Finance	409	5	27	409	5	26	409	5	29	409	5	39
Introduction to the Study of Labor Problems	410	3	21	410	3	34	410	3	28	410	3	59
Modern Industrial Development	...	...	...	...	...	...	412	5	13	...	...	...
Economics Statistics	422	3	23	422	3	51	422	3	78	422	3	52
Principles and Problems of Economics	...	...	...	611–2–3	3	16	601–2–3	3	14	601–2–3	3	9

Financial History of the United States	...	...	...	607–8	3	8	607–8	3	9	...	...	...
Money and Banking	610	5	31	610	5	101	610	5	105	610	5	101
Advanced Money	...	...	...	611	2	12	...	...	...	...	...	...
Advanced Banking	...	...	...	...	...	...	612	3	9	...	...	...
Corporation Economics	...	...	...	616	5	16	...	...	...	...	...	...
Trusts and Monopolies	...	...	...	617	3	15	...	...	...	...	...	...
Transportation Economics	618	5	15	618	5	59	618	5	70	618	5	53
Principles of Insurance	...	...	...	624	3	12	...	...	...	...	...	...
Economic Forecasting	...	...	...	...	...	...	625	2	5	...	...	...
Economic Forecasting	...	...	...	...	...	...	...	...	...	626	2	4
Public Finance	...	...	...	631	3	20	...	...	...	...	...	...
Public Finance	...	...	...	...	...	...	632	3	18	...	...	...
Public Finance	...	...	...	...	...	...	...	...	...	633	3	14
Industrial Relations	...	...	...	637	3	27	...	...	...	...	...	...
Labor Legislation	...	...	...	...	...	...	638	3	29	...	...	...
Social Insurance	...	...	...	...	...	...	...	...	...	639	3	33
Women in Industry	...	...	...	643	4	16	...	...	...	...	...	...
The Household	...	...	...	...	...	...	...	...	...	644	4	33
Economics of Public Service Industries	...	...	...	648	5	14	...	...	...	...	...	...
International Commercial Policies	...	...	...	...	...	...	...	...	...	651	3	19
Prices and the Economic Cycle	...	...	...	655*	2	...	655*	2	...	655*	2	...
The Distribution of Wealth and Income	...	...	...	656	3	17	...	...	...	...	...	...
Socialism	657	3	21	...	...	...	657	3	20	...	...	...
Population	...	...	...	658–60	2	19	658–60	2	11	658–60	2	10
Reading Course for Arts Seniors	...	...	...	...	...	...	...	...	...	702	...	4
History of Economic Thought	801–2–3	3	15	801–2–3	3	9	801–2–3	3	10	801–2–3	3	8
Economic History of the United States	...	...	...	804–5–6	3	7	804–5–6	3	3	804–5–6	3	4
Statistical Analysis	...	...	...	807–8–9	2	9	807–8–9	2	6	807–8–9	2	8
Principles of Economics for College Teachers	...	...	...	810–11*	2	...	810–11*	2	...	810–11*	2	...
Modern Economic Theories	...	...	...	816	3	5	...	...	...	...	...	...
Modern Economic Theories	...	...	...	...	...	...	817	3	5	...	...	...
Modern Economic Theories	...	...	...	...	...	...	...	...	...	818	3	10
French and German Economics	819	2	2	...	...	...	...	...	...	...	...	...
French and German Economics	...	...	...	820–21*	2	...	820–21*	2	...	820–21*	2	...
Seminary in Economics and Statistics	...	...	...	822–3–4	2	11	822–3–4	2	12	822–3–4	2	11
Research in Labor Problems and Legislation	...	...	...	828–30	1–3	...	828–30	1–3	...	828–30	1–3	...
Railroad Rates and Rate Control	...	...	...	831–2–3	1–3	...	831–2–3	1–3	...	831–2–3	1–3	...
Theories of Public Utility Rates in Europe and the United States	...	...	...	835–6–7	1–3	...	835–6–7	1–3	...	835–6–7	1–3	...
Research in Corporation Economics and Trust Problems	...	...	...	839–41	1–3	...	839–41	1–3	...	839–41	1–3	...
Research in Money and Banking	...	...	...	...	...	...	845–6–7	1–3	2	845–6–7	1–3	9
Research in Public Finance	...	...	...	851–2–3	1–3	2	851–2–3	1–3	1	851–2–3	1–3	1
Research in Theories and Problems of International Trade	...	...	...	854–5–6	1–3	...	854–5–6	1–3	...	854–5–6	1–3	...
Research in Economic Theory	...	...	...	857–8–9	1–3	...	857–8–9	1–3	...	857–8–9	1–3	...
Research in Insurance and Statistics	...	...	...	860–1–2	1–3	...	860–1–2	1–3	...	860–1–2	1–3	...
ELECTRICAL ENGINEERING												
Direct Current Equipment	601	5	10	601	5	27	...	...	...	601	5	26

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Alternating Current Circuits and Equipment	605	5	6	605	5	28	605	5	28	...	...	...
Medium and High Frequency Currents	...	...	...	...	...	...	611	5	27	611	5	30
Applications, Control and Problems	...	...	...	...	...	...	...	...	...	620	3	45
Experience in Practice	...	...	...	625	5	60	...	...	...	...	...	...
Electrical Engineering	...	...	...	...	...	...	630	5	12	...	...	...
Electrical Equipment	...	...	...	...	...	...	...	...	...	635	3	17
Electrical Engineering	...	...	...	...	...	...	640	2	23	...	...	...
Electrical Engineering	...	...	...	...	...	...	...	...	...	641	5	19
Inspection Trip to the West	...	...	...	...	...	...	...	...	...	650	...	36
Problem or Reading Course	...	...	...	651	...	...	651	...	...	651	...	...
Alternating Current Equipment	...	...	...	701	3	28	701	3	27	...	...	...
Alternating Current Equipment	...	...	...	702	3	26	702	3	23	...	...	...
Alternating Current Laboratory	...	...	...	705	4	31	705	4	23	...	...	...
Alternating Current Laboratory	...	...	...	706	4	24	706	4	23	...	...	...
Electric Utilities Engineering	...	...	...	710	4	10	...	...	...	...	...	...
Telephone Communication	...	...	...	715	4	33	...	...	...	...	...	...
Electrical Illumination	...	...	...	720	4	9	...	...	...	...	...	...
Electrical Illumination	...	...	...	722	3	11	...	...	...	...	...	...
Radio Communication	...	...	...	...	...	...	725	4	33	...	...	...
Advanced Electrical Communication	...	...	...	...	...	...	...	...	...	726	4	18
Electrical Design	...	...	...	...	...	...	730	4	36	...	...	...
Advanced Electrical Design	...	...	...	731	3	...	731	3	...	731	3	...
Thesis	...	...	...	735	3	1	735	3	31	...	...	...
Thesis	...	...	...	...	...	...	736	5	1	736	5	32
Electrical Transmission and Distribution	...	...	...	...	...	...	...	...	...	740	3	42
Advanced Electrical Engineering Laboratory	...	...	...	...	...	...	...	...	...	745	4	28
Inspection Trip to the East	...	...	...	...	...	...	...	...	...	752	...	38
Problem or Reading Course	...	...	...	753	...	...	753	...	...	753	...	...
Special Advanced Reading	...	...	...	...	...	...	760–1–2	...	1	760–1–2	...	3
Special Advanced Laboratory	...	...	...	735–6–7	...	1	...	...	...	765–6–7	...	1
The Application of Hyperbolic Functions to Electrical Engineering Problems	...	...	...	...	...	...	...	...	...	770	3	11
Electrical Engineering	...	...	...	775	4	42	...	...	...	...	...	...
Electrical Engineering	...	...	...	...	...	...	776	4	40	...	...	...
Engineering Field Problems	...	...	...	...	...	...	...	...	...	780	2	12
Electrical Engineering Practice	...	...	...	...	...	...	783	½	46	...	...	...
Electric Utilities Engineering	...	...	...	785	4	7	...	...	...	...	...	...
Advanced Theoretical Study of Electrical Engineering Practice and Equipment	801–2–3	3	4, 2	801–2–3	3	1	801–2–3	3	4	801–2–3	3	1
Research Work	811	5	2	811	5	5	811	5	1	811	5	3

Advanced Laboratory Study of Electrical Engineering Practice and Equipment	805–6–7	...	1	805–6–7	...	2	805–6–7	...	3	805–6–7	...	2
Research Work	811	5	2	811	5	5	811	5	1	811	5	3
ENGINEERING DRAWING												
Principles of Engineering Drawing	401	4	12	401	4	409	401	4	59	401	4	15
Principles of Engineering Drawing	402	4	6	...	...	...	402	4	327	402	4	63
Descriptive Geometry	403	4	11	...	...	...	403	4	21	403	4	294
Descriptive Geometry	...	...	...	...	...	...	...	...	...	404	4	32
Principles of Engineering Drawing	...	...	...	411	4	54	...	...	...	...	...	...
Principles of Engineering Drawing	...	...	...	...	...	...	412	4	46	...	...	...
Descriptive Geometry	...	...	...	...	...	...	...	...	...	413	4	39
Drawing and Sketching	...	...	...	414	2	36	...	...	...	...	...	...
Descriptive Geometry	...	...	...	...	...	...	...	...	...	415	4	13
Elements of Drawing and Lettering	...	...	...	...	...	...	...	...	...	416	2	32
Mechanical Drawing	...	...	...	418	3	...	418	3	...	418	3	...
Graphical Processes	...	...	...	419	4	...	419	4	...	419	4	...
Engineering Drawing	...	...	...	421	3	105	...	...	...	...	...	...
Machine Drawing	...	...	...	...	...	...	422	3	90	...	...	...
Advanced Descriptive Geometry	...	...	...	424	4	56	...	...	...	...	...	...
Engineering Drawing	...	...	...	425	2	74	...	...	...	...	...	...
Technical Drawing	...	...	...	426	3	45	...	...	...	426	3	37
Principles of Engineering Drawing	...	...	...	...	...	...	...	...	...	429	3	13
The Teaching of Engineering Drawing	...	...	...	...	...	...	436	5	7	...	...	...
Projection Drawing	...	...	...	437	2	69	...	...	...	437	2	68
House Planning	...	...	...	...	...	...	438	3	54	...	...	...
Drawing in Business	...	...	...	...	...	...	439	5	15	...	...	...
Chemical Machine Drawing	...	...	...	...	...	...	701	2	20	...	...	...
Chemical Plant Layout and Design	...	...	...	...	...	...	...	...	...	704	4	18
ENGLISH												
Theme Writing	305	2	8	...	...	...	...	...	...	...	...	...
Introduction to American Literature	333	2	44	...	...	...	...	...	...	...	...	...
Wordsworth and Coleridge	340	2	21	...	...	...	...	...	...	...	...	...
Shelley and Keats	341	2	13	...	...	...	...	...	...	...	...	...
Tennyson	342	2	36	...	...	...	...	...	...	...	...	...
Browning	343	2	15	...	...	...	...	...	...	...	...	...
Nineteenth Century Prose	346	2	24	...	...	...	...	...	...	...	...	...
Nineteenth Century Prose	347	2	27	...	...	...	...	...	...	...	...	...
Milton	359	2	20	...	...	...	...	...	...	...	...	...
Shakespeare: Comedies and Romances	368	2	24	...	...	...	...	...	...	...	...	...
Shakespeare: Later Comedies and Romances	369	2	18	...	...	...	...	...	...	...	...	...
Predecessors of Shakespeare in English Drama	372	2	12	...	...	...	...	...	...	...	...	...
Contemporaries and Immediate Successors of Shakespeare in English Drama	373	2	2	...	...	...	...	...	...	...	...	...
Composition and Reading	401	5	66	401	5	920	401	5	558	401	5	542
Composition and Reading	...	...	...	404	5	39	404	5	22	404	5	29
Theme Writing	405	5	26	405	5	42	405	5	63	405	5	51
Advanced Composition	...	...	...	407	5	29	...	...	...	...	...	...
English Composition	...	...	...	410	3	465	410	3	33	...	...	...
English Composition	...	...	...	...	...	...	411	3	368	411	3	62

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English Composition	...	...	...	412	3	42	...	...	...	412	3	347
Advanced English for Engineers	...	...	...	419	3	68	419	3	43	419	3	56
History of the English Language	...	...	...	...	...	...	427	3	95	...	...	...
English Words	...	...	...	428	3	81	...	...	...	428	3	65
The English Bible	...	...	...	429	5	31	429	5	42	429	5	34
Introduction to American Literature	433	5	116	433	5	763	433	5	515	433	5	665
Nineteenth Century Poetry: Romantic	441	5	40	441	5	135	441	5	135	441	5	131
Nineteenth Century Poetry: Victorian	442	5	50	442	5	81	442	5	106	442	5	175
Nineteenth Century Prose	446	5	84	446	5	84	446	5	101	446	5	111
Eighteenth Century Poetry and Prose	636	5	51	636	5	38	...	...	...	...	...	...
The Essay	...	...	...	...	...	...	...	...	...	639	5	40
Literature and Composition	...	...	...	...	...	...	...	...	...	643	5	21
Middle English	...	...	...	...	...	...	...	...	...	646	3	8
Old English	...	...	...	651	3	25	...	...	...	...	...	...
Old English Poetry	...	...	...	...	...	...	652	3	9	...	...	...
Chaucer and His Principal Contemporaries and Successors	...	...	...	...	...	...	653	5	17	...	...	...
English Medieval Literature to Chaucer	...	...	...	654	5	29	...	...	...	...	...	...
The Novel: Richardson to Scott	...	...	...	...	...	...	655	5	93	...	...	...
The Novel: Dickens to Meredith	...	...	...	656	5	51	...	...	...	656	5	104
Versification	657	5	35	...	...	...	657	5	12	...	...	...
The Short Story	658	5	30	...	...	...	658	5	39	...	...	...
Milton and Dryden	659	5	39	659	5	31	...	...	...	...	...	...
The Celtic Renaissance	...	...	...	...	...	...	...	...	...	664	5	40
Shakespeare: Histories and Tragedies	...	...	...	667	5	99	...	...	...	...	...	...
Shakespeare: Comedies and Romances	668	5	60	...	...	...	668	5	90	...	...	...
Recent and Contemporary Drama	...	...	...	...	...	...	670	5	62	...	...	...
Shakespeare's Contemporaries and Predecessors in English Drama	672	5	16	...	...	...	...	...	...	672	5	55
Spenser	...	...	...	...	...	...	674	5	36	...	...	...
Play Production	...	...	...	...	...	...	675	5	16	...	...	...
Honors Course	...	...	...	705	3	4	...	...	...	...	...	...
Honors Course	...	...	...	...	...	...	706–7	3	2	706–7	3	2
History of the Short Narrative in English	...	...	...	801	2	27	...	...	...	...	...	...
The Lyric	802	2	19	...	...	...	802	2	17	...	...	...
Studies in Criticism	805	2	20	805	2	24	...	...	...	...	...	...
Problems in Comedy	806	2	6	...	...	...	806	2	18	...	...	...
The Novel: End of Nineteenth Century	...	...	...	...	...	...	807	2	20	...	...	...
Poetry: End of the Nineteenth Century	...	...	...	808	2	16	...	...	...	808	2	27

The Twentieth Century Realistic Novel	...	...	...	810	3	18	...	...	...	809	3	19
English Usage	...	...	...	...	...	...	...	...	...	...	...	...
Studies in the Period of Chaucer	...	...	...	...	...	...	...	...	...	811	3	7
Studies in Seventeenth Century Literature	815	5	16	815	5	8	815	5	3	815	5	2
Studies in Poetic Rhythm	...	...	...	...	...	...	...	...	...	816	2	4
Studies in the Romantic Movement	817	5	18	817	5	7	...	...	...	...	...	...
Studies in Eighteenth Century Literature	...	...	...	818	5	9	818	5	9	...	...	...
Discussion of Dissertations	819	2–5	12	819	2–5	4	...	...	...	...	...	...
Discussion of Dissertations	820	2–5	12	820	2–5	4	820	2–5	6	...	...	...
Discussion of Dissertations	821	2–5	1	...	...	...	..	...	...	821	2–5	25
Play Writing	...	...	...	...	...	...	...	...	...	822	2	3
PUBLIC SPEAKING												
Principles and Practice of Public Speaking	410	5	35	401	5	163	401	5	113	401	5	219
Debating	...	...	...	402	5	15	402	5	27	402	5	24
Advanced Argumentation and Debate	...	...	...	417	5	4	...	...	...	407	5	6
Advanced Debate Practice	...	...	...	410	5	10	410	5	9	...	...	...
Extempore Speaking	...	...	...	...	...	...	414	5	9	...	...	...
Masters of Public Address	...	...	...	...	...	...	421	5	6	...	...	...
Principles and Practice of Oral Reading	459	3	24	...	...	...	459	3	27	...	...	...
The Forms of Public Address	...	...	...	...	...	...	...	...	...	625	5	8
Special Problems in the Theory of Public Speaking	...	...	...	...	...	...	...	...	...	651	5	6
FARM CROPS												
Field Crop Production	...	...	...	401	5	24	401	5	24	401	5	29
Cereal Crops	...	...	...	...	...	...	402	5	6	...	...	...
Forage Crops	...	...	...	...	...	...	...	...	...	403	5	7
Field Crop Improvement	405*	5	...	405*	5	...	405*	5	...	405*	5	...
Weeds and Weed Control	408	3	...	408	3	...	408	3	...	408	3	...
Plant Breeding	602	5	...	602	5	...	602	5	...	602	5	...
Crop Experimentation	603	3	...	603	3	...	603	3	...	603	3	...
Advanced Grain Grading and Judging	605*	5	...	605*	5	...	605*	5	...	605*	5	...
Special Problems	...	...	...	...	...	...	701	3–15	1	701	3–15	2
Research in Plant Breeding and Crop Production	...	...	...	801	5–10	1	801	5–10	1	801	5–10	1
Seminary	...	...	...	802	1	2	...	...	...	...	...	...
Short Course	...	...	...	...	...	...	...	...	46	...	...	...
FINE ARTS												
Elementary Freehand Drawing	321	2	6	...	...	...	...	...	...	...	...	...
Intermediate Design	332	3	20	...	...	...	...	...	...	...	...	...
Art Problems for Elementary Teachers	370	3	38	...	...	...	...	...	...	...	...	...
Art Problems for Teachers of Arts	371	3	9	...	...	...	...	...	...	...	...	...
Freehand Drawing	...	...	...	401–2–3	2	34	401–2–3	2	24	401–2–3	2	30
Advanced Freehand Drawing	...	...	...	404–5	2	24	404–5	2	19	...	...	...
Water Color Painting	...	...	...	...	...	...	...	...	...	407	2	29
Water Color Painting	...	...	...	408	3	...	408	3	...	408	3	...

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Students in All Sections Total No. of
Drawing from Life	...	...	...	...	...	...	411–12	3	17	411–12	3	11
Elementary Freehand Drawing	421	5	8	421	5	75	421	5	64	421	5	47
Advanced Freehand Drawing	423	5	10	423	5	24	423	5	49	423	5	30
Drawing from Life	...	...	...	424	5	13	424	5	20	424	5	17
Advanced Life Drawing	...	...	...	425	5	12	425	5	12	425	5	11
Elements of Art	...	...	...	426	5	66	426	5	71	426	5	19
Elementary Design	...	...	...	431	5	17	431	5	22	431	5	43
Intermediate Design	...	...	...	432	5	10	432	5	22	...	...	...
Commercial Design	...	...	...	...	...	...	433	5	12	...	...	...
Thesis Design	...	...	...	...	...	...	434	5	3	...	...	...
Illustrative Drawing	...	...	...	...	...	...	...	...	...	435	5	5
Elements of Art: Advanced	...	...	...	436	3	30	436	3	23	436	3	48
Water Color Painting	441	5	6	441	5	3	...	...	...	441	5	14
Oil Painting	...	...	...	442	5	12	442	5	6	442	5	17
Advanced Oil Painting	...	...	...	443	5	4	443	5	8	443	5	3
Advanced Water Color Painting	444	5	5	444	5	1	...	...	...	444	5	4
History of Classic Art	...	...	...	451	5	62	...	...	...	...	...	...
History of Medieval Art	...	...	...	...	...	...	452	5	54	...	...	...
History of Renaissance Art	...	...	...	...	...	...	...	...	...	453	5	53
Modern Painting and Sculpture	...	...	...	...	...	...	...	...	...	454	5	17
Modelling	...	...	...	461	5	6	461	5	14	461	5	12
Advanced Modelling	...	...	...	462	5	1	462	5	2	462	5	2
Technical Problems	...	...	...	465	3–5	20	465	3–5	1	...	...	...
Technical Problems	...	...	...	...	...	...	466	3–5	18	466	3–5	1
Technical Problems	...	...	...	...	...	...	...	...	...	467	3–5	52
Art Problems for Elementary Teachers	...	...	...	470	5	2	...	...	...	...	...	...
The Theory and Practice of Teaching Art	...	...	...	471	5	13	...	...	...	...	...	...
Appreciation of Art	475	1	38	...	...	...	...	...	...	...	...	...
Appreciation of the Plastic Arts	...	...	...	476	1	137	...	...	...	...	...	...
Appreciation of the Pictorial Arts	...	...	...	...	...	...	477	1	184	...	...	...
Appreciation of the Popular Arts	...	...	...	...	...	...	...	...	...	478	1	162
Ceramic Products	...	...	...	...	...	...	480	5	9	...	...	...
Ceramic Composition and Decorative Processes	...	...	...	481	5	...	481	5	...	481	5	...
Ceramic Shape Designing	...	...	...	...	...	...	...	...	...	482	5	2
Ceramic Decorating	...	...	...	483–4–5	5	...	483–4–5	5	...	483–4–5	5	...
Ceramic Ensemble Designing	...	...	...	486	5	...	486	5	...	486	5	...
Elementary Landscape Architecture	...	...	...	500	3	11	500	3	24	500	3	16
Theory of Landscape Design	...	...	...	...	...	...	510	3–5	9	...	...	...
Elementary Landscape Design	...	...	...	511	5	4	...	...	...	...	...	...

Intermediate Landscape Design	...	...	...	...	...	...	512–13	5	4	512–13	5	5
Advanced Landscape Design	...	...	...	514–16	5	6	514–16	5	5	514–16	5	6
Plant Materials	...	...	...	521–22	2	13	...	...	...	521–22	2	2
Plant Materials	...	...	...	523–25	2	4	523–25	2	4	523–25	2	4
History of Landscape Architecture	...	...	...	530	3	15	...	...	...	...	...	...
History of Post Renaissance Art	...	...	...	655	5	...	655	5	...	655	5	...
History of Oriental Art	...	...	...	656*	5	...	656*	5	...	656*	5	...
Proseminary	...	...	...	657–8–9	5	7	657–8–9	5	11	...	...	...
Advanced Technical Problems	...	...	...	661–2–3	3–5	16	661–2–3	5	13	661–2–3	3–5	12
Major Problems	...	...	...	801	3–5	4	801	3–5	1	...	...	...
Major Problems	...	...	...	...	...	...	802	3–5	4	...	...	...
Major Problems	...	...	...	...	...	...	...	...	...	803	3–5	6
Dissertation	...	...	...	...	...	...	...	5	1	...	5	1
GEOGRAPHY												
Principles of Geography	401	5	29, 35	401	5	459	401	5	189	401	5	175
Principles of Social Geography	...	...	...	402	5	170	402	5	131	402	5	123
Economic Geography	403	5	29	403	5	90	403	5	216	403	5	109
Climatology	...	...	...	411	5	6	...	...	...	...	...	...
Historical Geography and Commerce of the United States	...	...	...	422	3	96	...	...	...	422	3	145
Localization of Manufacturing Industries of the United States	...	...	...	...	...	...	...	...	...	603	4	31
Conservation of Natural Resources	...	...	...	604	2	15	...	...	...	...	...	...
Economic and Social Geography of Ohio	...	...	...	...	...	...	605	2	26	...	...	...
Land Utilization	...	...	...	...	...	...	...	...	...	606	2	20
Economic and Social Geography of Europe	621	3	20	621	3	30	...	...	...	...	...	...
Political Geography of South America	...	...	...	623	3	29	...	...	...	...	...	...
Caribbean Region and Panama Canal	...	...	...	...	...	...	624	3	37	...	...	...
Economic Geography of the Far East	...	...	...	...	...	...	...	...	...	625	3	21
Geography and History of Commerce	...	...	...	...	...	...	...	...	...	631	3	94
World Industries	632	3	15	632	3	21	...	...	...	...	...	...
Trade Centers and Trade Routes	...	...	...	...	...	...	634	3	45	634	3	20
Field Work in Geography and Commerce	...	...	...	641	1–3	1	...	...	...	641	1–3	10
Special Problems in Geography and Commerce	...	...	...	642	3	4	642	3	4	642	3	3
Geographic Factors in Civilization	...	...	...	...	...	...	661	3	11	...	...	...
Research in Geography and Commerce	801–2–3	1–3	2	801–2–3	1–3	1	...	...	...	...	...	...
Seminary in Geography and Commerce	...	...	...	805–6–7	2	1	805–6–7	2	2	805–6–7	2	1
Research in the Geography of Conservation and Land Utilization	...	...	...	808–10	1–3	...	808–10	1–3	...	808–10	1–3	...
History of Geography	...	...	...	811	2	..	811	2	...	811	2	...
Problems in the Geography of Foreign Commerce	...	...	...	815–17	1–3	...	815–17	1–3	...	815–17	1–3	...
Problems in Industrial and Agricultural Geography	...	...	...	...	...	...	...	...	...	821–2–3	1–3	1
Research in Physical Geography	...	...	...	...	...	...	831–2–3	1–3	2	...	...	...
GEOLOGY	...	...	...									
General Geology	...	...	...	401	5	243	401	5	137	401	5	87
General Geology	...	...	...	402	5	70	402	5	177	402	5	117
Glacial Geology	...	...	...	...	...	...	...	...	...	404	5	18

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Structural and Dynamical Geology	...	...	...	...	...	...	406	5	12	...	...	...
Historical Geology	...	...	...	...	...	...	...	...	...	407	5	6
Physiography	...	...	...	415	5	16	...	...	...	...	...	...
Meteorology	...	...	...	...	...	...	...	...	...	420	5	13
Agricultural Geology	...	...	...	430	5	46	...	...	...	430	5	73
Engineering Geology	...	...	...	435	5	65	435	5	44	...	...	...
Historical Geology for Engineers	...	...	...	...	...	...	437	3	3	...	...	...
Advanced Paleontology	...	...	...	601	3 or 4	4	...	...	...	...	...	...
Advanced Paleontology	...	...	...	602–3	3 or 4	...	602–3	3 or 4	...	602–3	3 or 4	1
Economic Geology	...	...	...	605	3	7	...	...	...	...	...	...
Economic Geology	...	...	...	...	...	...	606	3	4	...	...	...
Economic Geology	...	...	...	...	...	...	...	...	...	607	3	3
Stratigraphic Geology of Ohio	...	...	...	608	5	...	608	5	...	608	5	...
Petrology	...	...	...	609*	5	...	609*	5	...	609*	5	...
Physiography of the United States	...	...	...	...	...	...	610	5	5	...	...	...
Areal Geology	...	...	...	611	3–5	...	611	3–5	...	611	3–5	...
Special Problems	...	...	...	612	3–5	3	612	3–5	1	612	3–5	1
Geological Surveying	...	...	...	...	...	...	...	...	...	615	5	6
Clays	...	...	...	...	...	...	616	5	11	...	...	...
Principles of Sedimentation and Stratigraphy	...	...	...	...	...	...	...	...	...	618	5	7
Introductory Paleontology	...	...	...	620	3	5	...	...	...	...	...	...
Introductory Paleontology	...	...	...	...	...	...	621–22	3	4	621–22	3	5
Field Trip to Appalachian Mountains	...	...	...	625*	2	...	625*	2	...	625*	2	...
Field Trip to Appalachian Mountains	...	...	...	626	2	...	626	2	...	626	2	...
Advanced Historical Geology	...	...	...	801	3	4	...	...	...	...	...	...
Advanced Historical Geology	...	...	...	...	...	...	802	3	4	...	...	...
Advanced Historical Geology	...	...	...	...	...	...	...	...	...	803	3	4
Research Work	...	...	...	804	3–5	1	...	...	...	...	...	...
Research Work	...	...	...	...	...	...	805	3–5	3	...	...	...
Research Work	...	...	...	...	...	...	...	...	...	806	3–5	3
GERMAN												
Lessing	371	3	4	...	...	...	...	...	...	...	...	...
Elementary German	401	5	25	401	5	329	401	5	106	401	5	70
Elementary German	402	5	9	402	5	62	402	5	252	402	5	89
Intermediate German	403	5	9	403	5	73	403	5	58	403	5	161
Easy Classical Reading	404	5	9	404	5	75	404	5	62	404	5	44
Science Reading	...	...	...	406	5	10	...	...	...	406	5	45
Advanced German	...	...	...	411	5	13	...	...	...	...	...	...

Schiller	...	...	...	...	...	...	422	5	30	...	...	...
Readings in Technical and Critical German Literature	441	3	9	...	...	...	...	...	...	...	...	...
Modern Drama	...	...	...	...	...	...	...	...	...	442	...	34
Readings in Technical and Critical German Literature	476–77	3	4	476–77	3	1	476–77	3	1	...	...	...
Goethe: Lyrics	...	...	...	611	3	14	...	...	...	...	...	...
Goethe: Faust	...	...	...	...	...	...	...	...	...	612	3	11
Proseminary—Eighteenth and Nineteenth Century Literature	621	3	4	...	...	...	...	...	...	...	...	...
Friedrich Hebbel	...	...	...	...	...	...	632	3	14	...	...	...
Phonetics	...	...	...	655	3	15	...	...	...	...	...	...
The German Language	...	...	...	...	...	...	675	3	7	...	...	...
Advanced Composition	...	...	...	...	...	...	...	...	...	685	3	5
Minor Investigations	695	3	2	695	3	3	695	3	4	695	3	8
Advanced Middle High German	810	3	3	...	...	...	...	...	...	...	...	...
Seminary in German Literature	...	...	...	855–6–7	3	8	855–6–7	3	8	855–6–7	3	9
HISTORY												
History of the United States 1850-1925	304	3	39	...	...	...	...	...	...	...	...	...
Modern European History to 1789	...	...	...	401	5	630	401	5	212	401	5	211
Modern Europe since 1789	402	5	48	402	5	130	402	5	433	402	5	174
History of the United States 1763-1850	...	...	...	403	5	198	403	5	88	403	5	91
History of the United States 1850-1925	...	...	...	404	5	21	404	5	126	404	5	46
General Survey of U. S. History 1763-1850	405	5	53	405	5	197	405	5	115	405	5	125
History of the United States 1850-1925	...	...	...	406	5	81	406	5	141	406	5	102
Ancient History, Prehistoric and Oriental	...	...	...	411*	3	...	411*	3	...	411*	3	...
Greek History	412	5	14	412	5	39	...	...	...	...	...	...
Roman History	413	5	24	...	...	...	413	5	50	...	...	...
Europe in the Middle Ages to 1100 A.D.	...	...	...	414	3	22	...	...	...	...	...	...
Europe in the Middle Ages from 1100 A.D.	...	...	...	...	...	...	415	3	9	...	...	...
History of the Christian Church to the Protestant Reformation	...	...	...	416	5	...	416	5	...	416	5	...
England to 1603	...	...	...	421	5	50	...	...	...	...	...	...
England since 1603	...	...	...	...	...	...	422	5	62	...	...	...
Europe from 1815 to 1878	...	...	...	423	5	43	...	...	...	...	...	...
Europe from 1878 to 1919	...	...	...	...	...	...	424	5	65	...	...	...
History of Modern Russia	...	...	...	425	3	...	425	3	...	425	3	...
The Far East	...	...	...	426*	3	...	426*	3	...	426*	3	...
The History of Japan	...	...	...	427	5	7	...	...	...	...	...	...
Political Parties in the United States	431	5	25	431	5	16	...	...	...	...	...	...
Leading Characters in American History	...	...	...	...	...	...	432	5	41	...	...	...
The Struggle for North America	...	...	...	...	...	...	...	...	...	433	5	83
Colonial Period of Latin America	...	...	...	434	5	19	...	...	...	...	...	...
History of the Latin-American Republics	435	5	35	...	...	...	435	5	29	...	...	...
History of Canada	...	...	...	...	...	...	...	...	...	436	5	53
The History of Ohio	...	...	...	437	3	19	...	...	...	...	...	...
Introduction to Historical Research	601	3	33	601	3	18	...	...	...	...	...	...
Hellenic Civilization	...	...	...	602	3	7	...	...	...	...	...	...
Roman Civilization	603	3	27	...	...	...	603	3	13	...	...	...

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THE WORK OF INSTRUCTORS—1928-1929—Continued

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French Civilization in the Middle Ages	...	...	...	...	...	...	...	...	...	604	3	12
Germany and Italy in Middle Ages	...	...	...	605*	3	...	605*	3	...	605*	3	...
The Age of the Renaissance—1250-1527	607	3	26	607	3	21	...	...	...	...	...	...
The Period of the Reformation	608	3	30	...	...	...	608	3	13	...	...	...
The Roman Empire, the Period of the Principate	...	...	...	609*	3	...	609*	3	...	609*	3	...
The Late Roman Empire	...	...	...	610*	3	...	610*	3	...	610*	3	...
Constitutional History of England to 1485	...	...	...	611	3	14	...	...	...	...	...	...
Cinstitutional History of England since 1485	612	3	22	...	...	...	612	3	12	...	...	...
England in the Tudor Period	...	...	...	613*	3	...	613*	3	...	613*	3	...
England in the Stuart Period	...	...	...	614*	3	...	614*	3	...	614*	3	...
England from the Reform Bill of 1832 to 1867	...	...	...	...	...	...	615	3	15	...	...	...
England since 1867	...	...	...	...	...	...	...	...	...	616	3	18
Expansion of Europe to 1588	...	...	...	621	3	21	...	...	...	...	...	...
Expansion of Europe to 1815	...	...	...	...	...	...	622	3	22	...	...	...
Expansion of Europe from 1815 to the Present	...	...	...	...	...	...	...	...	...	623	3	27
The French Revolution and Napoleon	...	...	...	...	...	...	624	3	20	...	...	...
The Third French Republic	...	...	...	625*	3	...	625*	3	...	625*	3	...
Diplomatic History of the Far East	...	...	...	...	...	...	627	3	7	...	...	...
Recent and Contemporary European History—1919-26	...	...	...	...	...	...	...	...	...	628	5	71
The History of Modern Germany—1500-1914	...	...	...	...	...	...	...	...	...	629	3	9
Constitutional History of the United States to 1837	631	5	35	...	...	...	...	...	...	631	5	41
Constitutional History of the United States since 1837	...	...	...	632*	5	...	632*	5	...	632*	5	...
The Slavery Controversy	...	...	...	633	3	21	...	...	...	...	...	...
Reconstruction of the New South—1863-1925	...	...	...	...	...	...	634	3	16	...	...	...
American Diplomacy to the Close of the Civil War	635	3	60	...	...	...	635	3	23	...	...	...
American Diplomacy since the Civil War	...	...	...	...	...	...	...	...	...	636	3	30
Recent History of the U. S. 1875-1900	...	...	...	637	5	64	...	...	...	...	...	...
Recent History of the U. S. 1900-1926	...	...	...	...	...	...	638	5	69	...	...	...
The Influence of Immigrant Groups upon United States History	...	...	...	...	...	...	...	...	...	639	5	53
The Pioneer in American History to 1812	...	...	...	...	...	...	...	...	...	640	3	17
The Pioneer in American History since 1812	641	5	55	...	...	...	...	...	...	...	...	...
International Relations of Latin America	...	...	...	...	...	...	...	...	...	642	3	15
The Great Historians of the Nineteenth Century	...	...	...	...	...	...	651	3	10	...	...	...

The Great Historians of the Nineteenth Century	...	...	...	...	...	...	...	...	...	652	3	6
Honors Course	...	...	...	705–6–7	...	...	705–6–7	...	...	705–6–7	...	...
Seminary in European History	801	3	9	...	...	...	...	...	...	...	...	...
Seminary in American History	...	...	...	802–3–4	3	3	802–3–4	3	7	802–3–4	3	7
Seminary in American History	805	3	23	...	...	...	...	...	...	...	...	...
Seminary in European History	...	...	...	806–7–8	3	8	806–7–8	3	11	806–7–8	3	7
Thesis	...	...	...	...	3	4	...	...	...	...	...	...
HISTORY OF EDUCATION												
Educational Classics	350	2	19	...	...	...	...	...	...	...	...	...
Educational Classics	351	2	10	...	...	...	...	...	...	...	...	...
History of Elementary Education	...	...	...	401	5	22	401	5	33	...	...	...
History of Pre-Renaissance Education	403	3	13	403	3	6	403	3	14	403	3	11
History of Modern Education to 1750	404	3	86, 19	404	3	217	404	3	98	404	3	91
History of Modern Education II	405	3	78, 36	405	3	55	405	3	210	405	3	92
Educational Classics	...	...	...	...	...	...	601	4	10	...	...	...
Educational Classics	...	...	...	...	...	...	...	...	...	602	5	8
History of Education in the United States	605	2	9	605	2	15	...	...	...	...	...	...
History of Education in the United States	606	2	12	...	...	...	...	...	...	606	2	12
History of Industrial Education	...	...	...	...	...	...	607	2	11	...	...	...
History of the American High School	608	2	12	608	2	7	...	...	...	...	...	...
Present-Day Problems in Education I	...	...	...	...	...	...	...	...	...	609	2	11
Present-Day Problems in Education II	...	...	...	610*	2	...	610*	2	...	610*	2	...
History of Education in Ohio	...	...	...	611	2	8	...	...	...	...	...	...
Comparative Education	613	2	2	...	...	...	613	2	20	...	...	...
Comparative Education	614	2	10	...	...	...	...	...	...	614	2	6
Great Teachers	617	2	21	...	...	...	...	...	...	617	2	17
Seminary in the History of Education	801	2–5	1	801	2–5	4	801	2–5	6	801	2–5	4
Survey of Source Material and of General Literature in the Field of History of Education:												
Among the Ancient Greeks	...	...	...	805*	2	...	805*	2	...	805*	2	...
In Western Europe During Roman and Medieval Periods	...	...	...	806*	2	...	806*	2	...	806*	2	...
From Beginning of Italian Renaissance:												
In the Middle of the Eighteenth Century	...	...	...	807*	2	...	807*	2	...	807*	2	...
Since the Middle of Eighteenth Century	...	...	...	808	2	...	808	2	...	808	2	...
Research in History of Education	809	3–5	1	809	3–5	2	809	3–5	2	...	...	...
HOME ECONOMICS												
Textiles and Clothing	401	5	17	401	5	108	401	5	26	...	...	...
Textiles and Clothing	...	...	...	...	...	...	402	5	56	402	5	52
Dress	403	5	17	403	5	29	403	5	28	...	...	...
Household Mechanics	...	...	...	406	5	49	406	5	31	406	5	35
Elements of Nutrition	409	3	11	...	...	...	409	3	5	...	...	...
Elements of Nutrition and Food Preparation	410	5	22	...	...	...	410	5	13	...	...	...
Foods	...	...	...	411	5	60	411	5	10	411	5	28
Foods	...	...	...	412	5	19	412	5	49	412	5	16
Elements of Homemaking	...	...	...	...	...	...	...	...	...	418	5	73

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
The Child in the Home	...	...	...	421	3	10	...	...	...	...	...	...
Elementary Dietetics	425	2	...	425	2	...	425	2	...	425	3	...
Diet in Disease	426	1	...	426	1	...	426	1	...	426	1	...
Advanced Dress	...	...	...	501	5	5	...	...	...	501	5	25
Millinery	502	3	...	502	3	...	502	3	...	502	3	...
Home Hygiene	...	...	...	511	3	32	511	3	35	...	...	...
House Furnishing	...	...	...	512	5	11	512	5	38	512	5	26
Dietaries	...	...	...	...	...	...	...	...	...	609	1	30
Nutrition	611	5	23	611	5	23	611	5	11	611	5	34
Advanced Nutrition	...	...	...	...	...	...	...	...	...	612	5	14
Field Work in Nutrition	613	5	...	613	5	...	613	5	...	613	5	...
Foods	...	...	...	...	...	...	614	5	6	...	...	...
Experimental Work in Food Preparation	615	5	9	...	...	...	615	5	5	...	...	...
Household Management	...	...	...	617	5	14	617	5	23	617	5	40
The Purchase of Clothing and Household Furnishing	...	...	...	618	5	17	...	...	...	...	...	...
Child Development	621	5	30	621	5	15	621	5	19	621	5	40
The Purchase of Foods for Institutions	...	...	...	630	5	7	630	5	7	...	...	...
Institution Management	...	...	...	631	5	7	631	5	7	...	...	...
Institution Management	...	...	...	...	...	...	632	5	6	632	5	8
School Lunchroom Management	633	3	16	...	...	...	...	...	...	...	...	...
Home Economics Teaching	...	...	...	641	5	22	641	5	16	641	5	29
Supervised Home Economics Teaching	...	...	...	642	5	13	642	5	16	642	5	16
Problems in the Teaching of Home Economics	643	3	29	643	3	14	643	3	16	643	3	22
Special Problems in Home Economics	701	3–15	5, 7	701	3–15	12	701	3–15	4	701	3–15	21
Adv. Special Problems in Home Economics	801	3	...	801	3–15	1	801	3–15	6	801	3–15	3
Survey	...	...	...	...	1	90	...	1	42	...	...	...
Thesis	...	...	...	...	5	1	...	5	1	...	5	3
HORTICULTURE AND FORESTRY												
Principles of Horticulture	...	...	...	401	5	28	...	...	...	...	...	...
Small Fruits and Grapes	...	...	...	...	...	...	...	...	...	402	5	7
Pomology	...	...	...	403	5	9	...	...	...	403	5	8
Pomology	...	...	...	...	...	...	404	5	9	...	...	...
Farm Horticulture	...	...	...	405	5	24	405	5	28	405	5	17
Commercial Vegetable Gardening	...	...	...	421	5	3	...	...	...	...	...	...
Commercial Vegetable Gardening	...	...	...	...	...	...	...	...	...	422	5	6
Horticultural Products	...	...	...	423	3	4	...	...	...	...	...	...

Greenhouse Construction, Equipment and Management	...	...	...	...	...	...	424	3	8	...	...	...
Vegetable Forcing	...	...	...	...	...	...	...	...	...	426	3	2
Special Truck Crops	...	...	...	...	...	...	428	3	6	...	...	...
Amateur Floriculture	...	...	...	...	...	...	441	3	5	...	...	...
Commercial Floriculture	...	...	...	442	5	9	...	...	...	...	...	...
Commercial Floriculture	...	...	...	...	...	...	443	3	13	...	...	...
Garden Flowers	...	...	...	444	5	8	...	...	...	...	...	...
Garden Flowers	...	...	...	...	...	...	...	...	...	445	5	13
The Flower Shop	...	...	...	...	...	...	...	...	...	446	3	8
The Nursery	...	...	...	448	5	7	...	...	...	...	...	...
The Nursery	...	...	...	...	...	...	449	3	9	...	...	...
Farm Woodlot	...	...	...	451	5	5	...	...	...	451	5	3
Arboriculture and Ornamental Planting	...	...	...	452	5	3	...	...	...	...	...	...
Lumber	...	...	...	...	...	...	454	5	2	...	...	...
Principles of Forestry	...	...	...	455	5	2	...	...	...	...	...	...
Timber Physics	...	...	...	...	...	...	...	...	...	457	4 or 5	54
General Forestry	...	...	...	...	...	...	458	5	22	...	...	...
Development of Forestry and Conservation	...	...	...	...	...	...	460	5	2	...	...	...
Dendrology	...	...	...	...	...	...	...	...	...	508	5	6
Horticultural Plant Breeding	...	...	...	...	...	...	601	3	3	...	...	...
Experimental Horticulture	...	...	...	602	3	...	602	3	...	602	3	...
Experimental Horticulture	...	...	...	...	...	...	603	3	3	...	...	...
Systematic Pomology	...	...	...	604	5	...	604	5	...	604	5	...
The Literature of Horticulture	...	...	...	605	5	...	605	5	...	605	5	...
Advanced Pomology	...	...	...	...	...	...	...	...	...	606	5	4
Minor Investigations	...	...	...	701	3–15	11	701	3–15	14	701	3–15	8
Systematic Vegetable Gardening	...	...	...	621	5	...	621	5	...	621	5	...
Minor Investigations	...	...	...	...	...	...	702–3	3–15	...	702–3	3–15	1
Research	...	...	...	...	...	...	801	5–10	1	...	...	...
Short Course in Gardening	...	...	...	...	...	...	...	...	9	...	...	...
Short Course in Greenhouse Management	...	...	...	...	...	...	...	...	9	...	...	...
INDUSTRIAL ARTS-EDUCATION												
General Industrial Arts Laboratory	400	5	16	400	5	16	...	...	...	...	...	...
Wood and Cabinet Work	409	5	21	409	5	3	...	...	...	...	...	...
Wood and Cabinet Work	411	5	21	...	...	...	411	5	11	...	...	...
Wood and Cabinet Work	...	...	...	...	...	...	...	...	...	413	5	17
Installation and Maintenance of School Shop Equipment	430	3	9	...	...	...	430	3	7	...	...	...
Project Design	...	...	...	...	...	...	...	...	...	450	3	17
Advanced Project Design	452	3	10	...	...	...	...	...	...	...	...	...
Shopwork Related to the Farm	510	5	23	...	...	...	510	5	15	...	...	...
Practical Arts Laboratory for Teachers in Elementary Schools	541	3	7	...	...	...	...	...	...	...	...	...
Introduction to Industrial Arts-Education for Students of Education	600	3	37	600	3	28	600	3	21	600	3	22
Specialized Industrial Arts Curricula in the Junior and Senior High School	606	3	19	606	3	7	...	...	...	...	...	...
General Industrial Arts Curriculum in the Junior High School	...	...	...	...	...	...	608	3	3	...	...	...
Occupational Studies in the Junior and Senior High School	610	3	20	...	...	...	...	...	...	610	3	6

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
The Teaching and Supervision of Practical Arts in the Elementary School	623	3	7	...	...	...	...	...	...	...	...	...
Organization and Supervision of Industrial Arts Education in the Junior and Senior High School	625	3	10	625	3	2	...	...	...	...	...	...
Minor Problems	650	1 or 1+	17	650	1+	12	650	1+	4	650	1+	9
Minor Problems	651	1–3	10	...	...	...	...	...	...	...	...	...
The Teaching of Industrial Arts in the Secondary School	685	3	12	...	...	...	685	3	15	...	...	...
Seminary	...	...	...	801	2	1	801	2	2	...	...	...
Major Research Problems in Industrial Arts-Education	...	...	...	...	...	...	...	...	...	801	1+	1
Seminary	...	...	...	...	...	...	...	...	...	803	...	4
INDUSTRIAL ENGINEERING												
Foundry Work	...	...	...	405	3	54	405	3	42	405	3	14
Advanced Foundry Practice	...	...	...	...	...	...	406	2	7	406	2	18
Metal Bench Work	...	...	...	407	2	61	407	2	17	407	2	21
Millwrighting	...	...	...	408	2	13	408	2	73	408	2	19
Patternmaking	411	3	48, 16	411	3	48	411	3	24	...	...	...
Advanced Patternmaking	...	...	...	412	2	1	412	2	3	...	...	...
Forging and Heat Treating	415	3	20, 6	415	3	55	415	3	30	...	...	...
Forging and Sheet Metal Work	416	3	30, 21	...	...	...	416	3	19	416	3	26
Advanced Forging and Heat Treating	...	...	...	417	1	2	417	1	11	...	...	...
Elementary Machine Work	419	3	17	419	3	70	419	3	50	419	3	44
Advanced Machine Work	421	3	14	421	3	25	421	3	55	421	3	39
Engineering Organization	...	...	...	601	3	44	...	...	...	...	...	...
Laws of Engineering Management	...	...	...	...	...	...	602	3	29	...	...	...
Work Analysis	...	...	...	...	...	...	...	...	...	603	3	41
Advanced Machine Work	...	...	...	623	3	12	623	3	22	623	3	14
Inspection Trip	...	...	...	...	...	...	...	...	...	630–730	...	55
Practical Experience in an Industrial Organization	...	...	...	639	6	...	639	6	...	639	6	...
Work Analysis Laboratory	...	...	...	...	...	...	...	...	...	653	2	39
Selection of Manufacturing Equipment	...	...	...	701	3	24	...	...	...	...	...	...
Work Routing	...	...	...	...	...	...	702	4	25	...	...	...
Standardization and Simplification	...	...	...	...	...	...	...	...	...	703	3	25

Inspection and Waste Elimination	...	...	...	...	...	...	...	...	...	705	2	31
Principles of Industrial Engineering	...	...	...	...	...	...	712	3	44	712	3	45
Human Elements of Industrial Engineering	...	...	...	713	3	...	713	3	...	713	3	...
Tools, Jigs and Fixtures	...	...	...	751	3	24	...	...	...	...	...	...
Work-Routing Laboratory	...	...	...	...	...	...	752	3	25	...	...	...
Thesis	...	...	...	754	3–6	7	754	3–6	4	754	3–6	25
JOURNALISM												
News-Collecting and News-Writing	401	5	10	401	5	65	401	5	43	401	5	39
News-Collecting and News-Writing	...	...	...	402	5	21	402	5	41	402	5	34
Agricultural Journalism	...	...	...	407	3	7	...	...	...	407	3	14
Agricultural Journalism	...	...	...	...	...	...	408	3	11	...	...	...
Agricultural Editing	...	...	...	409	1	...	409	1	...	409	1	...
Trade and Technical Journalism	...	...	...	413*	3	...	413*	3	...	413*	3	...
Trade and Technical Journalism	...	...	...	414*	3	...	414*	3	...	414*	3	...
Copyreading	501	3	8	501	3	23	...	...	...	501	3	37
Feature Writing	...	...	...	...	...	...	502	3	38	502	3	16
Newspaper Ethics and Principles	...	...	...	513	3	22	...	...	...	513	3	18
Newspaper Law	...	...	...	514	3	30	...	...	...	514	3	20
Newspaper History and Comparative Journalism	...	...	...	...	...	...	517	5	37	...	...	...
Newspaper Organization	...	...	...	518	5	21	...	...	...	518	5	18
The Community Paper, Weekly and Daily	...	...	...	...	...	...	525	3	11	.....	...	...
The Newspaper Business Office	...	...	...	526	3	21	...	...	...	526	3	24
Newspaper Problems	...	...	...	607	2	21	...	...	...	607	2	20
Newspapers Problems	608	2	6	...	...	...	608	2	33	...	...	...
Editorial Writing	...	...	...	621	3	16	...	...	...	621	3	26
Public Opinion in the Making	...	...	...	...	...	...	622	3	41	...	...	...
Journalism Practice	...	...	...	625	2–5	...	625	2–5	...	625	2–5	...
The Newspaper as a Force in Human Progress	...	...	...	802–3–4	2	...	802–3–4	2	...	802–3–4	2	...
Journalism Seminary	808–9–10	2	1	...	...	...	...	...	...	808–9–10	2	1
LAW												
Mortgages and Suretyship	...	...	...	...	4	74	...	...	...	...	4	69
Quasi Contracts	...	...	...	...	3	40	...	...	...	...	...	...
Wills and Administration of Estates	...	...	...	...	...	...	...	...	...	...	3	69
Code Pleading	...	...	...	...	...	...	...	4	76	...	...	...
Agency	...	...	...	...	...	...	...	3	114	...	3	106
Civil Procedure at the Common Law	...	...	...	...	2 or 4	123	...	2 or 4	114	...	...	...
Domestic Relations	...	...	...	...	...	...	...	3	83	...	...	...
Gas and Oil	...	...	...	...	...	...	...	3	18	...	...	...
Judgments and Bankruptcy	...	...	...	...	...	...	...	...	...	...	4	22
Public Utilities	...	...	...	...	...	...	...	4	66	...	...	...
Municipal Corporations	...	...	...	...	3	19	...	...	...	...	...	...
Private Corporations	...	...	...	...	...	...	...	2 or 4	75	...	2 or 4	73
Trusts	...	...	...	...	4	75	...	4	70	...	...	...
Legal Ethics	...	...	...	...	...	...	...	...	...	...	1	58
Negotiable Instruments	...	...	...	...	4	80	...	...	...	...	4	74
Constitutional Law	...	...	...	...	3	83	...	3	86	...	3	25
Torts	...	...	...	...	2, 3 or 4	124	...	2, 3 or 4	118	...	2, 3 or 4	108

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Criminal Law	...	...	...	...	...	...	...	2 or 3	40	...	...	...
Sales	...	...	...	...	4	32	...	...	...	...	...	...
Contracts	...	...	...	...	3, 4 or 5	131	...	3, 4 or 5	124	...	3, 4 or 5	108
Practice I	...	...	...	...	3	49	...	...	...	...	...	...
Property	...	...	...	...	3	122	...	...	...	...	...	...
Property I	...	...	...	...	...	...	...	4	110	...	4	105
Property II	...	...	...	...	...	...	...	...	...	...	4	72
Evidence	...	...	...	...	...	...	...	3	73	...	3	70
Conflict of Laws	...	...	...	...	...	...	...	2 or 4	33	...	2 or 4	31
Future Interests	...	...	...	...	4	33	...	...	...	...	...	...
Equity I	...	...	...	...	...	...	...	...	...	...	4	106
Equity II	...	...	...	...	4	83	...	...	...	...	...	...
Equity III	...	...	...	...	3	70	...	...	...	...	...	...
Legal Method	...	...	...	...	3	21	...	...	...	...	...	...
Appellate Practice	...	...	...	...	...	...	...	3	46	...	...	...
Office Practice	...	...	...	...	...	...	...	2	31	...	...	...
Practice Court	...	...	...	...	...	...	...	...	...	...	2	52
MATHEMATICS												
Sub-Freshman Mathematics	...	...	...	400	3	184	...	...	...	...	...	...
Mathematics for Students of Agriculture	...	...	...	407	5	24	407	5	40	407	5	24
College Algebra	...	...	...	421	5	227	421	5	141	...	...	...
Plane Trigonometry	...	...	...	...	...	...	422	5	75	422	5	79
Analytic Geometry	...	...	...	...	...	...	...	...	...	423	5	26
Mathematics of Finance	...	...	...	429	5	28	429	5	40	...	...	...
Mathematics of Insurance	...	...	...	...	...	...	...	...	...	430	5	10
Plane Trigonometry	431	5	13	431	5	383	431	5	206	...	...	...
College Algebra	...	...	...	...	...	...	432	5	331	432	5	254
Analytic Geometry	433	5	36	433	5	165	...	...	...	433	5	291
Elementary Mathematics Statistics	...	...	...	...	...	...	435	5	10	...	...	...
Calculus	441	5	16	441	5	301	441	5	172	...	...	...
Calculus	...	...	...	442	5	49	442	5	236	442	5	146
Calculus	...	...	...	443	5	84	443	5	41	443	5	161
Advanced Calculus	...	...	...	601	5	38	...	...	...	...	...	...
Introduction to the Theory of Functions of a Complex Variable	...	...	...	...	...	...	607	5	15	...	...	...
Differential Equations	611	5	28	...	...	...	611	5	27	...	...	...
Differential Equations	...	...	...	612*	5	...	612*	5	...	612*	5	...

Introduction to Modern Mathematics	...	...	...	617*	5	...	617*	5	...	617*	5	...
Advanced Euclidian Geometry	...	...	...	...	...	...	621	5	23	...	...	...
Projective Geometry	...	...	...	...	...	...	...	...	...	623	5	23
Solid Analytic Geometry	...	...	...	625	5	...	625	5	...	625	5	...
Elementary Theory of Equations	641	5	30	641	5	21	...	...	...	...	...	...
Vector Analysis	...	...	...	...	...	...	...	...	...	661	5	20
Mathematical Methods in Theoretical Physics	...	...	...	665	5	...	665	5	...	665	5	...
Introduction to the Theory of Relativity	...	...	...	671	5	9	...	...	...	...	...	...
Materials and Concepts of Elementary Mathematics	...	...	...	684	5	...	684	5	...	684	5	...
The History of Mathematics	...	...	...	685*	5	...	685*	5	...	685*	5	...
Probability	...	...	...	691	5	10	...	...	...	...	...	...
Finite Differences	...	...	...	692	5	...	692	5	...	692	5	...
Actuarial Theory	...	...	...	693	5	...	693	5	...	693	5	...
Advanced Actuarial Theory	...	...	...	694	5	...	694	5	...	694	5	...
Mathematical Statistics	696	5	7	...	...	...	...	...	...	...	...	...
Statistical Methods of Forecasting	...	...	...	697	5	...	697	5	...	697	5	...
Seminary in Mathematics	800	3–5	1	...	...	...	800	3–5	2	800	3–5	4
Reading and Research	801	3–10	2	801	3–10	7	801	3–10	9	801	3–10	8
Functions of a Real Variable	...	...	...	805	5	7	...	...	...	...	...	...
Theory of Functions of a Complex Variable	...	...	...	...	...	...	...	...	...	806	5	4
Point-Sets	...	...	...	812*	5	...	812*	5	...	812*	5	...
Methods of Analysis I	...	...	...	...	...	...	814	5	1	...	...	...
Methods of Analysis II	...	...	...	...	...	...	...	...	...	815	2–5	2
Calculus of Variations	...	...	...	816*	5	...	816*	5	...	816*	5	...
Non-Euclidian Geometry	...	...	...	822*	5	...	822*	5	...	822*	5	...
Differential Geometry	827	5	6	...	...	...	...	...	...	827	5	5
Finite Groups	...	...	...	841*	5	...	841*	5	...	841*	5	...
Theory of Numbers	...	...	...	850*	5	...	850*	5	...	850*	5	...
Introduction to Higher Algebra	851	5	15	...	...	...	...	...	...	...	...	...
Algebraic Invariants	...	...	...	852	5	7	...	...	...	...	...	...
Continuous Groups	...	...	...	...	...	...	854	5	6	...	...	...
Algebraic Numbers	...	...	...	855*	5	...	855*	5	...	855*	5	...
Hypercomplex Numbers	...	...	...	856	5	6	...	...	...	...	...	...
Theory of Matrices	...	...	...	857	3	...	857	3	...	857	3	...
Fourier's Series and Spherical Harmonics	...	...	...	861*	5	...	861*	5	...	861*	5	...
Functional Operations I	...	...	...	865	5	5	...	...	...	...	...	...
Functional Operations II	...	...	...	...	...	...	866	5	4	...	...	...
Mathematical Theory of Statistics	...	...	...	891*	3	...	891*	3	...	891*	3	...
MECHANICAL ENGINEERING												
Heat-Power Engineering	...	...	...	...	...	...	...	...	...	409	3	49
Materials of Engineering	...	...	...	...	...	...	...	...	...	427	3	90
Practical Experinece in a Mechanical Engineering Industry	...	...	...	439	5	24	...	...	...	...	...	...
Heat Engines	...	...	...	507	4	27	507	4	27	...	...	...
Heat-Power Engineering	...	...	...	509	3	49	...	...	...	...	...	...
Machine Design	...	...	...	513	5	13	...	...	...	...	...	...
Machine Design	...	...	...	...	...	...	514	4	45	...	...	...
Machine Design	...	...	...	...	...	...	...	...	...	515	5	43

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Mechanical Engineering Laboratory	...	...	...	531	2	52	...	...	...	...	...	...
Mechanical Engineering Laboratory	...	...	...	...	...	...	532	2	44	...	...	...
Mechanical Engineering Laboratory	...	...	...	...	...	...	...	...	...	533	2	41
Heating and Ventilating	...	...	...	551	2	27	...	...	...	...	...	...
Power Generation and Transmission	...	...	...	560	5	26	...	...	...	...	...	...
Heating and Ventilating	...	...	...	...	...	...	572	4	19	...	...	...
Mechanical Engineering Laboratory	...	...	...	573	5	45	...	...	...	...	...	...
Mechanical Engineering Laboratory	...	...	...	...	...	...	574	3	30	...	...	...
Mechanical Engineering Laboratory	...	...	...	...	...	...	...	...	...	575	3	17
Mechanical Engineering Laboratory	...	...	...	591	5	...	591	5	...	591	5	...
Heating and Ventilating	...	...	...	...	...	...	605	4	19	605	4	38
Steam Engineering	...	...	...	607	5	43	...	...	...	...	...	...
Steam Engineering	...	...	...	...	...	...	608	5	38	...	...	...
Steam Engineering	...	...	...	...	...	...	...	...	...	609	3	37
Mechanism	...	...	...	614	4	45	...	...	...	...	...	...
Mechanism Drawing	...	...	...	...	...	...	616	2	42	...	...	...
Mechanical Engineering Laboratory	...	...	...	617	2	15	...	...	...	...	...	...
Gas Engines and Producers	...	...	...	...	...	...	...	...	...	625	3	33
Inspection Trip to the West	...	...	...	...	...	...	...	...	...	630	...	31
Reading Course	...	...	...	634	...	...	634	...	...	634	...	...
Practical Experience in a Mechanical Engineering Plant	...	...	...	639	6	...	639	6	...	639	6	...
A. S. M. E. Student-Branch Meetings	...	...	...	651–2–3	½	41	651–2–3	½	38	651–2–3	½	36
Mechanical Engineering Laboratory	...	...	...	...	...	...	664	3	34	...	...	...
Mechanical Engineering Laboratory	...	...	...	...	...	...	...	...	...	665	3	34
Automotive Engineering	...	...	...	...	...	...	704–5	3	25	704–5	3	22
Heating and Ventilating Design	...	...	...	707	3	...	707	3	...	707	3	...
Aircraft Construction	...	...	...	...	...	...	...	...	...	709	3	20
Air-Compressing and Refrigerating Machinery	...	...	...	...	...	...	715	3	11	...	...	...
Machine Design	...	...	...	727	5	45	...	...	...	...	...	...
Machine Design	...	...	...	...	...	...	728	5	44	...	...	...
Inspection Trip to the East	...	...	...	...	...	...	...	...	...	730	...	25
Reading Course	...	...	...	...	...	...	...	...	...	734	...	3
Hydraulic Machinery	...	...	...	742	3	39	...	...	...	...	...	...
Machine Design	...	...	...	...	...	...	...	...	...	743	3	15
Machine Design	...	...	...	...	...	...	...	...	...	744	5	27
Steam Turbines	...	...	...	746	3	...	746	3	...	746	3	...
Thesis Work	...	...	...	...	...	...	...	...	...	748	3	2
A. S. M. E. Student-Branch Meetings	...	...	...	751–2–3	½	31	751–2–3	½	30	751–2–3	½	33

Hydraulic Power	...	...	...	754	3	...	754	3	...	754	3	...
Mechanical Engineering Laboratory	...	...	...	779–81	3	31	779–81	3	7	779–81	3	6
Automotive Engineering Laboratory	...	...	...	...	...	...	782–3	3	21	782–3	3	20
Hydraulic Power Laboratory	...	...	...	785	3	...	785	3	...	785	3	...
Mechanical Engineering Laboratory	...	...	...	793	3	...	793	3	...	793	3	...
Research Work	...	...	...	801–2–3	5–10	...	801–2–3	5–10	...	801–2–3	5–10	...
Gas Power and Design	...	...	...	805–6–7	2–5	...	805–6–7	2–5	...	805–6–7	2–5	...
Gas Power and Laboratory Work	...	...	...	811–13	3–6	...	811–13	3–6	...	811–13	3–6	...
Steam Power Plants, Economics and Design	...	...	...	815–17	3–5	...	815–17	3–5	...	815–17	3–5	...
MECHANICS												
Statics	...	...	...	601	5	216	601	5	50	601	5	55
Strength of Materials	...	...	...	602	5	53	602	5	196	602	5	45
Strength of Materials, Kinetics and Hydraulics	...	...	...	603	5	26	603	5	40	603	5	157
Strength of Materials	...	...	...	...	...	...	604	3	14	...	...	...
Advanced Theoretical Mechanics	...	...	...	801–2–3	3	...	801–2–3	3	...	801–2–3	3	...
MEDICINE												
Dispensary Clinic	...	...	...	601	3	80	...	...	...	...	...	...
Ward Clinic	...	...	...	...	...	...	602	2	70	...	...	...
Medicine, General and Clinical	...	...	...	...	...	...	603–4	5	59	603–4	5	60
Nervous Diseases	...	...	...	605	3	80	...	...	...	...	...	...
Dermatology	...	...	...	...	...	...	...	...	...	606	3	60
Genito-Urinary Diseases	...	...	...	...	...	...	607	2	60	...	...	...
Medicine, Special Topics, Ethics	...	...	...	608–10	1	...	608–10	1	...	608–10	1	...
Psychiatry	...	...	...	...	...	...	611	1	70	...	...	...
Therapeutics	...	...	...	614	2	...	614	2	...	614	2	...
Pediatrics, Didatic and Clinical	...	...	...	615	2	76	...	...	...	...	...	...
Pediatrics, Didatic and Clinical	...	...	...	616	2	...	616	2	...	616	2	...
Pediatrics, Didatic and Clinical	...	...	...	...	...	...	...	...	...	617	2	76
History of Medicine	...	...	...	618	2	...	618	2	...	618	2	...
Tuberculosis	...	...	...	...	...	...	619	2	79	...	...	...
Syphilology	...	...	...	...	...	...	...	...	...	623	2	44
Clinical Medicine	...	...	...	...	...	...	...	...	...	625	2	68
Visceral Neurology	...	...	...	630	2	...	630	2	...	630	2	...
Localization in the Nervous System	...	...	...	631	2	...	631	2	...	631	2	...
METALLURGY												
Elementary Fuel Testing	...	...	...	401	2	25	...	...	...	...	...	...
Metallurgical Analysis	...	...	...	...	...	...	405	5	24	...	...	...
Metallurgical Analysis	...	...	...	...	...	...	...	...	...	406	5	22
Fire Assaying	...	...	...	...	...	...	410	3	8	410	3	15
Industrial Experience	...	...	...	420	5	...	420	5	...	420	5	...
Metallurgical Analysis	...	...	...	451	3	41	451	3	2	...	...	...
Ceramic Analysis	...	...	...	...	...	...	452	4	30	...	...	...
Ceramic Analysis	...	...	...	...	...	...	...	...	...	453	4	26
Metallurgical Analysis	...	...	...	...	...	...	...	...	...	454	4	3
Iron and Steel Metallurgy	...	...	...	...	...	...	605	3	8	...	...	...
Principles of Metallography	...	...	...	...	...	...	606	2	7	...	...	...
Inspection of Commercial Metals	...	...	...	607	3	...	607	3	...	607	3	...
Calorimetry and Advanced Fuel Analysis	...	...	...	...	...	...	608	3	3	...	...	...
Non-Ferrous Metallurgy	...	...	...	...	...	...	...	...	...	610	5	6
Principles of Ore Dressing	...	...	...	620	5	10	...	...	...	...	...	...

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Inspection Trip	...	...	...	...	...	...	...	...	...	645	...	5
Pyrometry	...	...	...	650	2	28	...	...	...	...	...	...
Fuels	...	...	...	651	3	71	651	3	36	...	...	...
Gas Testing and Calorimetry	...	...	...	652	1	35	...	...	...	...	...	...
Technical Gas and Fuel Analysis	...	...	...	655	3	...	655	3	...	655	3	...
General Metallurgy	...	...	...	...	...	...	...	...	...	665	5	22
Advanced Metallography	...	...	...	701	4	9	...	...	...	...	...	...
Heat Treatment and Special Steels	...	...	...	...	...	...	702	3	9	...	...	...
Metallurgical Construction	...	...	...	...	...	...	705	4	7	...	...	...
Metallurgical Construction	...	...	...	...	...	...	...	...	...	706	4	8
The Principles of Gas Engineering	...	...	...	709	6	...	709	6	...	709	6	...
Metallurgical Investigations	...	...	...	710	3–5	4	710	3–5	10	710	3–5	6
Metallurgical Investigations	...	...	...	711	5	1	711	5	2	711	5	8
Ore Dressing	...	...	...	720	3	10	...	...	...	...	...	...
Coal Preparation	...	...	...	721	3	...	721	3	...	721	3	...
Thesis	...	...	...	725	5 or 6	1	...	...	...	725	5 or 6	8
MINE ENGINEERING												
Mine Surveying	...	...	...	401	5	10	...	...	...	...	...	...
Mapping	...	...	...	...	...	...	402	2	4	...	...	...
Mine Surveying	...	...	...	...	...	...	...	...	...	405	2	2
Industrial Work	...	...	...	431	5	...	431	5	...	431	5	...
Surveying	...	...	...	...	...	...	...	...	...	501	5	23
Prospecting and Preliminary Operations	...	...	...	...	...	...	601	5	1	...	...	...
Inspection Trip	...	...	...	...	...	...	...	...	...	630	...	5
Development and Methods of Mining	...	...	...	...	...	...	...	...	...	701	3	3
Mine Operations	...	...	...	702	5	3	...	...	...	...	...	...
Mine Examination and Reports	...	...	...	...	...	...	703	5	2	...	...	...
Mine Design	...	...	...	...	...	...	711	5	3	...	...	...
Petroleum Engineering	...	...	...	721	3	2	...	...	...	...	...	...
Petroleum Engineering	...	...	...	...	...	...	722	3	3	...	...	...
Petroleum Engineering	...	...	...	...	...	...	...	...	...	723	3	3
Thesis	...	...	...	...	...	...	...	...	...	741	5	1
Mine Investigations	...	...	...	750	3–5	3	750	3–5	2	750	3–5	3
Principles of Mining	...	...	...	760	3	...	760	3	...	760	3	...
Mining Investigations	...	...	...	801–2–3	3–5	...	801–2–3	3–5	...	801–2–3	3–5	...
MINERALOGY												
Crystallography and Descriptive Mineralogy	...	...	...	401	3	83	401	3	13	401	3	4

Descriptive Mineralogy	...	...	...	402	5	5	402	3	75	402	3	10
Blowpipe Analysis	...	...	...	...	...	...	404	4	10	...	...	...
Advanced Crystallography	...	...	...	...	...	...	...	...	...	601	5	3
Thermochemical Mineralogy	...	...	...	605	3	12	...	...	...	605	3	33
Advanced Thermochemical Mineralogy	...	...	...	...	...	...	606	3	5	...	...	...
Elementary Microscopic Petrography	...	...	...	...	...	...	...	...	...	611	4	11
Microscopic Mineralogy	...	...	...	621	5	18	...	...	...	...	...	...
Mineralogical Investigations	...	...	...	...	...	...	631	5	4	631	5	6
Thesis	...	...	...	...	...	...	...	...	...	741	5	1
Research	...	...	...	801–2–3	5	2	801–2–3	5	1	801–2–3	5	1
MUSIC												
Rural School Music and County Supervision	330	2	6	...	...	...	...	...	...	...	...	...
History and Appreciation of Music	430	4	42	...	...	...	430	4	45	...	...	...
History and Appreciation of Music	...	...	...	...	...	...	...	...	...	431	4	35
School Music I	442	3	11	442	3	23	...	...	...	...	...	...
School Music II	443	3	21, 16	...	...	...	...	...	...	443	3	20
The Teaching of Elementary School Music	...	...	...	447–8	3	16	...	...	...	447–8	3	12
Conducting	459	2	16	...	...	...	459	2	9	...	...	...
Harmony	460–1–2	3	3, 6	460–1–2	3	23	460–1–2	3	20	460–1–2	3	25
Harmonic Analysis	...	...	...	...	...	...	465	3	14	...	...	...
Form	...	...	...	...	...	...	...	...	...	468	3	18
Counterpoint	...	...	...	472*	3	...	472*	3	...	472*	3	...
Counterpoint	...	...	...	474*	3	...	474*	3	...	474*	3	...
Elementary Sight Singing and Ear Training	476–8–9	2	7	476–8–9	2	40	476–8–9	2	34	476–8–9	2	35
Intermediate Sight Singing and Ear Training	...	...	...	482–3	3	32	482–3	3	26	...	...	...
Advanced Sight Singing and Ear Training	...	...	...	485–6	1	4	485–6	1	2	...	...	...
Applied Music	501–2–3	2	...	501–2–3	2	24	501–2–3	2	22	501–2–3	2	33
Applied Music	504–5–6	1	10	504–5–6	1	29	504–5–6	1	27	504–5–6	1	26
Applied Music	507–8–9	1	13	507–8–9	1	15	507–8–9	1	19	507–8–9	1	9
Applied Music	510–11–12	1	5	510–11–12	1	13	510–11–12	1	11	510–11–12	1	16
The Romanticists	...	...	...	601	4	17	...	...	...	...	...	...
The Opera	...	...	...	602	4	4	...	...	...	...	...	...
Modern Music	...	...	...	...	...	...	603	4	13	...	...	...
History of Choral Music	...	...	...	605	3	...	605	3	...	605	3	...
Music in the Junior High School	610	2	14, 26	610	2	12	...	...	...	...	...	...
High School Music	611	2	17, 6	...	...	...	...	...	...	611	2	13
Composition	...	...	...	620*	3	...	620*	3	...	620*	3	...
Composition	...	...	...	621*	3	...	621*	3	...	621*	3	...
Composition	...	...	...	622*	2	...	622*	3	...	622*	3	...
Instrumentation	630–2	3	5	630–2	3	11	630–2	3	11	...	...	...
Instrumentation	...	...	...	...	...	...	...	...	...	635	3	10
University Chorus	A	O	50	A	O	58	A	O	55	A	O	80
University Chorus	...	...	...	B	O	55	B	O	70	B	O	73
OBSTETRICS												
Obstetrics, Normal	...	...	...	...	...	...	601	3	60	...	...	...
Obstetrics, Abnormal	...	...	...	...	...	...	...	...	...	602	3	60
Obstetrics, Pathological	...	...	...	603	3	76	...	...	...	...	...	...
Obstetrics, Pathological	...	...	...	...	...	...	604	3	74	...	...	...
Clinical Obstetrics	...	...	...	605	4	8	...	...	...	605	4	75

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PATHOLOGY												
Elementary Pathology	...	...	...	401	2	...	401	2	...	401	2	...
General Pathology	...	...	...	450–1	3	60	450–1	3	61	...	...	...
Dental Pathology	...	...	...	...	...	...	...	...	...	452	2	62
General Pathology	...	...	...	601	3	...	601	3	...	601	3	...
Special Pathology	...	...	...	...	...	...	...	...	...	602	5	90
Clinical Pathology	...	...	...	603	3	...	603	3	...	603	3	...
Clinical Pathology	...	...	...	604	3	...	604	3	...	604	3	...
Surgical Pathology	...	...	...	605	2	...	605	2	...	605	2	...
Medical Pathology	...	...	...	...	...	...	...	...	...	606	2	37
Post-Mortem Demonstration	...	...	...	...	...	...	...	...	...	607	1	76
Advanced Pathology	...	...	...	...	...	...	...	...	...	608–10	3–5	10
Advanced Special Pathology	...	...	...	...	...	...	...	...	...	611–13	3–5	4
Experimental Pathology	...	...	...	614–15	3–5	...	614–15	3–5	...	614–15	3–5	...
Advanced Clinical Pathology	...	...	...	...	...	...	...	...	...	616–18	3	10
Neuropathology	...	...	...	619–21	1	...	619–21	1	...	619–21	1	...
Pathology of the Eye	...	...	...	...	...	...	...	...	...	622	2	10
PHARMACY												
Pharmacy Survey	...	...	...	400	1	52	...	...	...	...	...	...
Pharmacy	...	...	...	401	5	52	401	5	20	...	...	...
Pharmacy	...	...	...	...	...	...	402	5	42	402	5	15
Pharmacy	...	...	...	403	5	13	...	...	...	403	5	33
Pharmacy	...	...	...	404	5	30	404	5	14	...	...	...
Pharmacy	...	...	...	...	...	...	405	5	34	405	5	7
Pharmacy	...	...	...	406	5	10	...	...	...	406	5	34
Materia Medica	...	...	...	407	3	20	...	...	...	...	...	...
Materia Medica	...	...	...	...	...	...	408	3	25	...	...	...
Materia Medica	...	...	...	...	...	...	...	...	...	409	3	23
Pharmaceutical Analysis	...	...	...	410	5	22	...	...	...	...	...	...
Pharmaceutical Analysis	...	...	...	...	...	...	411	5	27	...	...	...
Pharmaceutical Analysis	...	...	...	...	...	...	...	...	...	412	5	27
Pharmacognosy: Microscopical	...	...	...	416–18	3	28	416–18	3	28	416–18	3	29
Toxicology	...	...	...	...	...	...	...	...	...	419	5	25
Pharmacognosy: Commercial	...	...	...	422	5	28	...	...	...	422	5	37
Pharmacy: Commercial	...	...	...	...	...	...	423	2	37	...	...	...
Pharmacy: Commercial	...	...	...	...	...	...	...	...	...	424	2	41
Pharmaceutical Arithmetic	...	...	...	425	1	86	425	1	23	...	...	...
Pharmaceutical Arithmetic	...	...	...	...	...	...	426	1	68	426	1	26

Pharmacy: Applied	...	...	...	...	...	...	427	3	7	427	3	32
Current Literature	...	...	...	428	2	18	...	...	...	428	2	6
Pharmaceutical Arithmetic	...	...	...	429	3	14	...	...	...	429	3	51
Pharmaceutical Latin	...	...	...	430	5	32	...	...	...	430	5	31
Thesis	...	...	...	431–2	3	28	431–2	3	20	...	...	...
PHILOSOPHY												
Introduction to Philosophy	401	5	40, 20	401	5	91	401	5	51	401	5	120
Elementary Logic	402	5	42, 33	402	5	33	402	5	30	402	5	110
Elementary Ethics	...	...	...	405	5	39	405	5	66	405	5	67
Ancient and Medieval Philosophy	601	5	23	601	5	19	...	...	...	...	...	...
Modern Philosophy	602	5	15	...	...	...	602	5	23	...	...	...
Contemporary Philosophy	...	...	...	...	...	...	...	...	...	603	5	16
The Problem of Human Life	...	...	...	605*	5	...	605*	5	...	605*	5	...
American Philosophy	...	...	...	...	...	...	606	3	8	...	...	...
Development of the Hebrew Ideas in the Old Testament	...	...	...	607	5	21	...	...	...	...	...	...
Philosophy and Poetry	...	...	...	608*	3	...	608*	3	...	608*	3	...
Medieval Philosophy	...	...	...	609	3	...	609	3	...	609	3	...
Origins of Christian Thought	...	...	...	...	...	...	...	...	...	610	3	11
Origin and Development of Religious Ideas	...	...	...	...	...	...	611	5	31	...	...	...
Plato	...	...	...	623	3	2	...	...	...	...	...	...
Aristotle and Plotinus	...	...	...	...	...	...	624	3	2	...	...	...
Representative Pre-Kantian Philosophers	...	...	...	625*	3	...	625*	3	...	625*	3	...
Representative Post-Kantian Philosophers	...	...	...	626	3	2	...	...	...	...	...	...
Nineteenth Century Empiricists	...	...	...	627*	3	...	627*	3	...	627*	3	...
Philosophy of Science	652	3	5	...	...	...	...	...	...	652	3	5
Philosophy of Religion	...	...	...	...	...	...	...	...	...	653	3	3
Esthetics	...	...	...	655	5	11	...	...	...	...	...	...
Principles of Individual and Social Ethics	656	5	9	...	...	...	...	...	...	656	5	22
Mathematical Logic	...	...	...	657	3	3	...	...	...	...	...	...
Minor Problems	660	2–5	3	...	...	...	660	2–5	1	660	2–5	3
Metaphysics of Knowledge and Nature	...	...	...	661	3	9	...	...	...	...	...	...
Metaphysics of Personality and Values	...	...	...	...	...	...	662	3	7	...	...	...
Seminary in Systematic Philosophy	...	...	...	801	3	4	...	...	...	...	...	...
Seminary in Systematic Philosophy	...	...	...	...	...	...	802	3	5	...	...	...
Seminary in Systematic Philosophy	...	...	...	...	...	...	...	...	...	803	3	1
Seminary in Systematic Philosophy	804	3	3	...	...	...	...	...	...	...	...	...
Scientific Method	...	...	...	805	2	3	...	...	...	...	...	...
Epochs in the History of Thought	...	...	...	806	2	...	806	2	...	806	2	...
Research	...	...	...	809–11	3–10	1	809–11	3–10	6	809–11	3–10	7
Seminary in Social and Political Philosophy	...	...	...	815–17*	3–10	...	815–17*	3–10	...	815–17*	3–10	...
Thesis	...	...	...	...	...	...	...	...	...	...	2	2
Philosophy of History	...	...	...	820*	3	...	820*	3	...	820*	3	...
PHYSIOLOGICAL CHEMISTRY												
Physiological Chemistry	...	...	...	...	...	...	...	...	...	401	3	79
Materia Medica	...	...	...	...	...	...	...	...	...	405	4	12
Physiolcgical Chemistry	...	...	...	601	5	114	...	...	...	...	...	...

* Not given in 1928–29.

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Physiological Chemistry	...	...	...	...	...	...	602	5	82	...	...	...
Quantitative Methods of Blood and Urine Analysis	...	...	...	...	...	...	...	...	...	603	3	8
Pharmacology	...	...	...	...	...	...	...	...	...	605	5	60
Materia Medica	...	...	...	...	...	...	606	5	86	...	...	...
Methods of Biologic Drug Assay	...	...	...	607	2	...	607	2	...	607	2	...
Toxicology	...	...	...	608	3	...	608	3	...	608	3	...
Research in Physiological Chemistry	...	...	...	801–2–3	5–10	1, 3	801–2–3	5–10	2	801–2–3	5–10	6
Advanced Physiological Chemistry	...	...	...	...	...	...	...	...	...	807	3	4
Research in Materia Medica	...	...	...	810	3–10	...	810	3–10	...	810	3–10	...
Seminary in Physiological Chemistry	...	...	...	811	1	...	811	1	...	811	1	...
Physiological Chemistry for Nurses	...	...	...	...	...	...	...	...	41	...	...	...
PHYSICS												
General Physics: Mechanics and Heat	...	...	...	401	5	59	...	...	...	401	5	20
General Physics: Sound, Light, Electricity	...	...	...	...	...	...	402	5	47	...	...	...
General Physics: Mechanics and Heat	403	5	9	403	5	36	...	...	...	...	...	...
General Physics: Sound, Light, Electricity	...	...	...	...	...	...	404	5	26	...	...	...
Elementary Electron Physics	...	...	...	...	...	...	...	...	...	409	5	10
General Physics: Mechanics	...	...	...	411	5	287	411	5	54	...	...	...
General Physics: Heat, Sound and Light	412	5	13	...	...	...	412	5	258	...	...	...
General Physics: Electricity	...	...	...	...	...	...	...	...	...	413	5	190
Physics for Students of Agriculture: Mechanics, Heat and Electricity	...	...	...	421	5	22	421	5	46	421	5	41
General Physics for Engineers: Mechanics	431	5	9	431	5	236	431	5	137	431	5	50
General Physics for Engineers: Heat, Sound and Light	432	5	13	...	...	...	432	5	249	...	...	...
General Physics for Engineers: Electricity and Magnetism	...	...	...	433	5	29	...	...	...	433	5	154
Electricity and Magnetism	...	...	...	435	3	79	...	...	...	...	...	...
Electricity and Magnetism	...	...	...	...	...	...	436	5	65	...	...	...
Electrical Measurements and Photometry	...	...	...	...	...	...	...	...	...	437	5	52
Advanced Light	...	...	...	...	...	...	...	...	...	607	4	19
Advanced Electricity	...	...	...	...	...	...	608	4	17	...	...	...
Molecular Physics and Heat	609	4	25	609	4	25	...	...	...	...	...	...
Conduction of Electricity through Gases and Radioactivity	...	...	...	...	...	...	610	4	21	...	...	...
Modern Spectroscopy	611	4	18	611	4	16	...	...	...	...	...	...
Periodic and Transient Electric Currents	...	...	...	...	...	...	...	...	...	612	4	29
Advanced Physical Laboratory	616	3–24	41	616	3–24	30	616	3–24	29	616	3–24	15

Minor Investigations	...	...	...	630	3	4	630	3	7	630	3	7
Modern Theories of Electricity and Applications	...	...	...	738	4	50	...	...	...	...	...	...
Advanced Theory of Light	...	...	...	801	3	...	801	3	...	801	3	...
Advanced Theory of Light	...	...	...	802	3	...	802	3	...	802	3	...
Thermo-dynamics	...	...	...	803*	3	...	803*	3	...	803*	3	...
Thermo-dynamics	...	...	...	804*	3	...	804*	3	...	804*	3	...
Theory of Electricity and Magnetism	...	...	...	...	...	...	805	3	11	...	...	...
Theory of Electricity and Magnetism	...	...	...	...	...	...	...	...	...	806	3	10
Theory of Electricity and Magnetism	...	...	...	...	...	...	...	...	...	807	3	9
Theory of Oscillations	...	...	...	809	3	10	...	...	...	...	...	...
Theory of Oscillations	...	...	...	...	...	...	810	3	10	...	...	...
Theory of Oscillations	...	...	...	...	...	...	...	...	..	811	3	9
Seminary in Physics	...	...	...	812	1	...	812	1	...	812	1	...
Electronic Theory and Atomic and Molecular Structure	...	...	...	813–15	3	...	813–15	3	...	813–15	3	...
Theoretical and Quantum Mechanics	...	...	...	817–19	3	...	817–19	3	...	817–19	3	...
Conduction of Electricity Through Gases	...	...	...	...	...	...	...	...	...	821	3	4
Radioactivity	...	...	...	822*	3	...	822*	3	...	822*	3	...
Research Laboratory	...	...	...	830	3	6	...	...	...	...	...	...
Research Laboratory	...	...	...	...	...	...	831	3	10	...	...	...
Research Laboratory	...	...	...	...	...	...	...	...	...	832	3	10
Seminary in Theoretical Physics	851–52	3	8	851–52	3	3	851–52	3	3	...	...	...
PHYSIOLOGY												
Elementary Physiology	...	...	...	401	5	87	...	...	...	...	...	...
Elementary Physiology	...	...	...	...	...	...	402	5	27	...	...	...
Elementary Physiology	407	5	24	407	5	236	407	5	66	...	...	...
Elementary Physiology	408	5	23	...	...	...	408	5	109	408	5	41
Elementary Physiology	...	...	...	...	...	...	409	5	90	409	5	32
Elementary Physiology	...	...	...	412	3	...	412	3	...	412	3	...
Comparative Physiology	...	...	...	413	5	39	...	...	...	...	...	...
Comparative Physiology	...	...	...	414	4	...	414	4	...	414	4	...
Principles of Physiology	...	...	...	...	...	...	...	...	...	419	5	162
Dental Physiology	...	...	...	501–2–3	6	74	501–2–3	6	74	501–2–3	6	71
Advanced Physiology	...	...	...	604	6	88	...	...	...	...	...	...
Advanced Physiology	...	...	...	...	...	...	605	6	85	...	...	...
Dental Physiology	...	...	...	...	...	...	...	...	...	606	2	79
Physiological Laboratory	...	...	...	611	5	1	...	...	...	...	...	...
Physiological Laboratory	...	...	...	...	...	...	612	5	1	...	...	...
Physiological Laboratory	...	...	...	...	...	...	...	...	...	613	5	1
Advanced Physiology	...	...	...	615	5	3	...	...	...	...	...	...
Advanced Physiology	...	...	...	...	...	...	616	5	3	...	...	...
General Physiology	...	...	...	...	...	...	...	...	...	617	5	13
Physiology of Metabolism	...	...	...	618	3 or 5	17	...	...	...	...	...	...
Physiology of Reproduction	...	...	...	...	...	...	619	3 or 5	19	...	...	...
Physiology of Exercise	...	...	...	...	...	...	...	...	...	620	3 or 5	11
Research Physiology—Minor	801	5	1	801–2–3	5	...	801–2–3	5	...	801–2–3	5	...
Research Physiology—Major	...	...	...	804–5–6	10–15	1	804–5–6	10–15	1	804–5–6	10–15	1
Physiology for Nurses	...	...	...	...	...	...	...	...	...	...	4	24

* Not given in 1928–29.

THE WORK OF INSTRUCTORS—1928-1929—Continued

Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
PHYSICAL EDUCATION—MEN												
Hygiene	...	...	...	400	1	629	400	1	625	...	...	666
Physical Education	...	...	...	401	1	2203	...	...	...	...	...	...
Physical Education	...	...	...	402	1	...	402	1	...	402	1	...
Physical Education	...	...	...	403	1	...	403	1	...	403	1	1582
Theory and Practice of Physical Education (Men)	...	...	...	441	2	31	...	...	...	...	...	...
Theory and Practice of Physical Education (Men)	...	...	...	442	2	...	442	2	...	442	2	...
Theory and Practice of Physical Education (Men)	...	...	...	443	2	...	443	2	...	443	2	32
Theory and Practice of Physical Education (Men)	...	...	...	445–6–7	3	22	...	...	...	...	...	...
Theory and Practice of Physical Education (Men)	...	...	...	449–51	3	14	...	...	...	...	...	...
Theory and Practice of Physical Education for High School	...	...	...	452*	3	...	452*	3	...	452*	3	6
First Aid	...	...	...	473	1	...	473	1	...	473	1	...
Organization and Administration of Athletics and Physical Education for Boys	...	...	...	480*	2	...	480*	2	...	480*	2	...
Organization and Administration of Physical Education in Secondary Schools	...	...	...	481	1	...	481	1	...	481	1	...
Play and Playground	...	...	...	482*	2 or 3	...	482*	2 or 3	...	482*	2 or 3	...
Therapeutic Gymnastics and Physical Examinations	...	...	...	493	3	...	493	3	...	493	3	9
Principles of Coaching Football	...	...	...	501*	2	...	501*	2	...	501*	2	...
Advanced Football Technic	...	...	...	502*	1	...	502*	1	...	502*	1	...
Principles of Coaching Basketball	...	...	...	504*	1	...	504*	1	...	504*	1	...
Principles of Coaching Track and Field Sports	...	...	...	508*	1	...	508*	1	...	508*	1	...
Principles of Coaching Baseball	...	...	...	512*	...	...	512*	1	...	512*	1	...
The Teaching of Health	...	...	...	643	3	...	643	3	...	643	3	1
Minor Problems in Physical Education	...	...	...	651	1–4	...	651	1–4	...	651	1–4	...
Organization and Administration of Physical Education	...	...	...	...	...	...	...	...	...	527	1	23
	...	...	...	582	5	...	582	5	...	582	5	...
History and Principles of Physical Education	...	...	...	...	...	...	...	...	...	520	1	22
	...	...	...	683	5	...	683	5	...	683	5	...
Prevention and Care of Injuries	...	...	...	...	...	...	685	3	11	...	...	...
Kinesiology	...	...	...	...	...	...	691	3	8	...	...	...

Hygiene and School Health Problems	...	...	...	692	3	...	692	3	...	692	3	...
PHYSICAL EDUCATION—WOMEN												
Hygiene	...	...	...	400	1	298	...	...	...	...	...	...
Physical Education	...	...	...	421	1	867	...	...	...	...	...	...
Physical Education	...	...	...	422	1	...	422	1	...	422	1	...
Physical Education	...	...	...	423	1	...	423	1	...	423	1	...
Physical Education	...	...	...	425	1	767	...	...	...	...	...	...
Physical Education	...	...	...	426	1	...	426	1	...	426	1	...
Physical Education	...	...	...	427	1	...	427	1	...	427	1	...
Elementary Folk Dancing	...	...	...	461*	2	...	461*	2	...	461*	2	...
Elementary Interpretative Dancing	...	...	...	464*	1	...	464*	1	...	464*	1	...
Sports Technic	...	...	...	471*	2	...	471*	2	...	471*	2	...
First Aid	...	...	...	473*	1	...	473*	1	...	473*	1	...
Principles of Physical Education	...	...	...	475*	2	...	475*	2	...	475*	2	...
Play and Playground	...	...	...	482*	3	...	482*	3	...	482*	3	...
Plays and Games	...	...	...	485*	1	...	485*	1	...	485*	1	...
Gymnastics	...	...	...	492*	2	...	492*	2	...	492*	2	...
Therapeutic Gymnastics and Physical Education	...	...	...	493	3	...	493	3	...	493	3	...
Elementary and Intermediate Swimming	...	...	...	495*	1	...	495*	1	...	495*	1	...
Advanced Swimming	...	...	...	496*	1	...	496*	1	...	496*	1	...
Tennis	...	...	...	514*	1	...	514*	1	...	514*	1	...
Theory and Practice of Physical Education	...	...	...	541–2–3	3	44	...	...	...	...	...	...
Theory and Practice of Physical Education	...	...	...	545–6–7	3	32	...	...	...	...	...	...
Theory and Practice of Physical Education	...	...	...	549–51	3	25	...	...	...	...	...	...
The Teaching of Health	...	...	...	643	3	...	643	3	...	643	3	...
Minor Problems in Physical Education	...	...	...	651	1–4	...	651	1–4	...	651	1–4	...
Therapeutic Gymnastics, Advanced	...	...	...	671	3	21	...	...	...	...	...	...
Organization and Administration of Physical Education	...	...	...	682	5	...	682	5	...	682	5	...
History and Principles of Physical Education	...	...	...	683	5	...	683	5	...	683	5	...
Kinesiology	...	...	...	691	3	20	...	...	...	...	...	...
Hygiene and School Health Problems	...	...	...	692	3	...	692	3	...	692	3	...
POLITICAL SCIENCE												
American Federal Government	401	5	33	401	5	243	401	5	203	401	5	208
Government and Politics of Foreign Countries	402	5	20	402	5	84	402	5	158	402	5	142
American State and Local Government	...	...	...	403	5	25	403	5	68	403	5	114
State Legislative and Administrative Problems	...	...	...	...	...	...	...	...	...	604	3	19
Municipal Government	...	...	...	607	5	41	...	...	...	...	...	...
Municipal Functions	...	...	...	...	...	...	608	3	19	...	...	...
Introduction to Jurisprudence	...	...	...	611	5	43	...	...	...	...	...	...
International Law	...	...	...	...	...	...	612	3	53	...	...	...
Contemporary International Politics	613	5	24	...	...	...	...	...	...	...	...	...
American Constitutional Law	...	...	...	616	3	32	...	...	...	...	...	...
History of Political Theories	619	3	16	...	...	...	619	3	36	...	...	...
Recent Political Theories	...	...	...	...	...	...	...	...	...	620	3	61
Methods of Governmental Research	...	...	...	...	...	...	631–2	2	11	631–2	2	14

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Elections and Parties	...	...	...	635	5	25	...	...	...	...	...	...
Honors Course	...	...	...	...	...	...	705–6–7	4	1	705–6–7	4	1
Research in Political Science	801	3–5	6	801	3–5	2	...	...	...	...	...	...
Research in Political Science	...	...	...	...	...	...	802	3–5	5	...	...	...
Research in Political Science	...	...	...	...	...	...	803	3–5	1	803	3–5	3
POULTRY HUSBANDRY												
Farm Poultry	...	...	...	401	5	54	401	5	47	401	5	37
Poultry Breeding and Housing	...	...	...	402	5	9	...	...	...	...	...	...
Incubation and Brooding	...	...	...	...	...	...	...	...	...	408	5	5
Poultry Nutrition	...	...	...	...	...	...	601	5	12	...	...	...
Hatchery Management	...	...	...	...	...	...	...	...	...	602	5	3
Marketing Poultry Products	...	...	...	603	3	7	...	...	...	...	...	...
Poultry Farm Management	...	...	...	605	3	...	605	3	...	605	3	...
Special Problems in Poultry Husbandry	...	...	...	701	3–15	3	701	3–15	3	701	3–15	3
Research in Poultry Husbandry	...	...	...	801	...	...	801	...	...	801	...	...
Short Course	...	...	...	...	...	...	...	...	7	...	...	...
PRINCIPLES OF EDUCATION												
Principles of Education	301	3	105, 36	...	...	...	...	...	...	...	...	...
Principles of Education	302	3	40, 77	...	...	...	...	...	...	...	...	...
Principles and Methods of Elementary School Teaching	303	2	22	...	..	...	...	...	...	...	...	...
Teaching of Arithmetic and Science in the Schools	304	2	56	...	...	...	...	...	...	...	...	...
Teaching of English Studies in the Elementary Schools	305	2	22	...	...	...	...	...	...	...	...	...
Teaching of the Social Studies in the Elementary Schools	306	2	27	...	...	...	...	...	...	...	...	...
Supervised Study	311	2	27	...	...	...	...	...	...	...	...	...
Methods of High School Teaching	312	3	14, 15	...	...	...	...	...	...	...	...	...
Teaching of the Primary Grades	316	2	50	...	...	...	...	...	...	...	...	...
Kindergarten and Pre-School Teaching	318	2	18	...	...	...	...	...	...	...	...	...
Teaching of Geography in the Elementary School	319	2	23	...	...	...	...	...	...	...	...	...
Teaching Nature Study and Science in the Elementary School	320	2	20	...	...	...	...	...	...	...	...	...

Principles and Methods of Junior High School Teaching	351	2	47	...	...	...	...	...	...	...	...	...
Principles and Methods of Junior High School Teaching	353	2	27	...	...	...	...	...	...	...	...	...
Supervision of Elementary School Teaching	360	2	25	...	...	...	...	...	...	...	...	...
Supervision of Elementary School Teaching	361	2	13	...	...	...	...	...	...	...	...	...
Methods and Problems of the Physical Sciences	364	2	18	...	...	...	...	...	...	...	...	...
Methods and Problems of the Physical Sciences	365	2	14	...	...	...	...	...	...	...	...	...
The Rural Elementary Curriculum	377	2	8	...	...	...	...	...	...	...	...	...
The History Course of Study in Secondary Schools	384	3	38	...	...	...	...	...	...	...	...	...
The History Course of Study in Secondary Schools	385	3	33	...	...	...	...	...	...	...	...	...
Principles of Education	...	...	...	401	5	146	401	5	137	401	5	253
Contemporary Educational Practices	...	...	...	...	...	...	...	...	...	406	3	9
Methods of High School Teaching	...	...	...	410	3	96	...	...	...	410	3	189
Principles and Methods of Elementary School Teaching	...	...	...	...	...	...	430	5	3	...	...	...
Supervised Teaching in Secondary Schools	...	...	...	440	5	83	...	...	...	440	5	230
Practice Teaching in Elementary Schools	...	...	...	...	...	...	441	10	3	...	...	...
Principles and Methods of Teaching Commercial Subjects	485	3	15	...	...	...	...	...	...	...	...	...
Teaching of Arithmetic in the Elementary Schools	...	...	...	492	3	13	...	...	...	...	...	...
Teaching of English Studies in the Elementary Schools	...	...	...	493	3	18	...	...	...	...	...	...
Teaching of Social Studies in the Elementary Schools	...	...	...	...	...	...	494	3	22	...	...	...
Teaching the Primary Grades	...	...	...	495	3	12	...	...	...	...	...	...
Teaching Geography in the Elementary School	...	...	...	496	3	5	...	...	...	...	...	...
Moral Ideals in Education	601	3	28	601	3	13	...	...	...	...	...	...
Cultural and Vocational Ideals in Education	...	...	...	...	...	...	605	4	8	605	4	1
Principles and Methods of Junior High School Teaching	...	...	...	...	...	...	606	5	15	...	...	...
Supervision of Teaching in the Secondary Schools	610	3	49, 36	...	...	...	...	...	...	610	3	5
Survey of Scientific Investigations in Elementary School Subjects	612	3	6	...	...	...	612	3	6	...	...	...
Supervision of Elementary School Teaching	...	...	...	...	...	...	...	...	...	613	3	13
Curriculum Construction in Elementary Education	614	3	15	614	3	21	...	...	...	...	...	...
Social Aims in Education	615	3	48	615	3	12	...	...	...	...	...	...
Elementary Teacher Training	...	...	...	...	...	...	616	4	8	...	...	...
Social Aims in Education	619	3	13	...	...	...	...	...	...	...	...	...
Conceptions of Mind in Educational Theory	620	3	108	620	3	70	...	...	...	...	...	...
Problems of Curriculum Construction in Secondary Education	625	3	22	...	...	...	625	3	8	...	...	...
Supervision of Student Teaching in Elementary Schools	633	3	12	...	...	...	...	...	...	...	...	...
Professionalized Subject Matter Courses in Teacher Training Institutions	634	3	4	...	...	...	...	...	...	...	...	...
Modern Tendencies in Education	640	3	85	...	...	...	...	...	...	640	3	66
The Doctrine of Interest and Apperception	643	3	32	...	...	...	643	3	24	...	...	...

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Social Education	...	...	...	...	...	...	...	...	...	645	3	13
Minor Problems	650	2–4	107, 41	...	...	...	...	...	...	...	...	...
Minor Problems	...	...	...	651	2–4	8	651	2–4	4	651	2–4	15
Minor Problems	...	...	...	...	...	...	652	2–4	12	...	...	...
Methods and Problems of the Physical Sciences	...	...	...	660	4	10	...	...	...	...	...	...
Methods and Problems of the Physical Sciences	...	...	...	...	...	...	...	...	...	661	5	10
The History Course of Studies in Secondary Schools	...	...	...	663	5	68	...	...	...	...	...	...
The Dalton Plan in Relation to New Movements in Education	667	2	159, 70	...	...	...	...	...	...	...	...	...
The Place of Schools in the Social Organizations	680	3	16	...	...	...	...	...	...	680	3	8
Theories of the Educative Process	682	3	40–50	682	3	5	...	...	...	...	...	...
The Thinking Process in its Educational Bearings	683	3	34	683	3	15	...	...	...	683	3	13
The Teaching of American History	700	3	45	700	3	92	...	...	...	...	...	...
The Teaching of Biology	...	...	...	...	...	...	...	...	...	705	3	27
The Teaching of Chemistry	...	...	...	...	...	...	...	...	...	710	3	17
The Teaching of English	715	3	32	715	3	46	...	...	...	715	3	71
Teaching and Supervision of Journalism in Secondary Schools	716	3	7	...	...	...	...	...	...	...	...	...
The Teaching of Dramatics	...	...	...	717	5	13	...	...	...	...	...	...
Methods of Teaching Latin	...	...	...	730	3	7	...	...	...	...	...	...
The Teaching of Latin	731	3	22	...	...	...	...	...	...	...	...	...
The Teaching of Mathematics	735	3	22	735	3	17	...	...	...	...	...	...
The Teaching of French	740	3	3	...	...	...	740	3	18	...	...	...
The Teaching of Spanish	745	3	5	...	...	...	...	...	...	...	...	...
Teaching of Mechanical Drawing	...	...	...	750	3	24	...	...	...	...	...	...
Teaching of Mechanical Drawing	...	...	...	...	...	...	751	3	24	...	...	...
Teaching of Physics	...	...	...	...	...	...	...	...	...	755	3	5
Spoken and Written English: Teachers' Course	760	3	8	...	...	...	760	3	8	...	...	...
Social Problems in Educational Theory	801	3	16	...	...	...	...	...	...	...	...	...
Special Problems in Educational Theory	...	...	...	802–3–4	3	8	802–3–4	3	10	802–3–4	3	7
Special Problems in Secondary Education	...	...	...	...	...	...	812	3	8	...	...	...
Special Problems in Secondary Education	...	...	...	...	...	...	...	...	...	813	3	11
Special Educational Problems in the Social Studies in Secondary Schools	814	3	3	...	...	...	...	...	...	...	...	...
Special Problems in Elementary Education	...	...	...	825	3	18	...	...	...	...	...	...
Special Problems in Elementary Education	...	...	...	...	...	...	826	3	13	...	...	...

Special Problems in Elementary Education	...	...	...	...	...	...	...	...	...	827	3	15
Teaching and Supervision of History in the Secondary Schools	835	3	16	...	...	...	...	...	...	...	...	...
Teaching and Supervision of English in the Secondary Schools	843	3	20	...	...	...	...	...	...	...	...	...
College Teaching	...	...	...	...	...	...	...	...	...	860	3	15
Technic of Curriculum Construction	...	...	...	...	...	...	861	3	48	...	...	...
Thesis	...	...	...	...	...	...	...	3	10	...	3	8
PSYCHOLOGY												
Elementary Psychology	401	5	58,27,86	401	5	761	401	5	460	401	5	737
Elementary Psychology	402	5	33	402	5	353	402	5	365	402	5	371
Intermediate General Psychology	406	3	10	...	...	...	...	...	...	406	3	41
Educational Psychology	407	5	83,50,38	407	5	221	407	5	212	407	5	217
Mental Hygiene	408	2	34	...	...	...	408	2	74	...	...	...
Introduction to Applied Psychology	...	...	...	...	...	...	...	...	...	409	3	40
Psychology of Effective Study	...	...	...	...	...	...	411	3	17	411	3	16
Experimental Psychology—Introduction	...	...	...	601	3	26	...	...	...	...	...	...
Experimental Psychology—Intermediate	...	...	...	...	...	...	602	3	17	...	...	...
Experimental Psychology—Advanced	...	...	...	...	...	...	...	...	...	603	3	12
Physiological Psychology	...	...	...	605	3	53	...	...	...	...	...	...
Advanced Physiological Psychology	...	...	...	...	...	...	606	3	18	...	...	...
Genetic Psychology and Child Study	607	5	52	...	...	...	...	...	...	607	5	98
Educational Statistics: Elementary	...	...	...	608	3	14	...	...	...	...	...	...
The Exceptional Child	609	3	85	...	...	...	...	...	...	609	3	54
Adolescence	610	3	63	610	3	79	...	...	...	...	...	...
The Mentally Deficient Child	611	3	47	...	...	...	611	3	36	...	...	...
Educational Statistics: Intermediate	...	...	...	...	...	...	612	3	14	...	...	...
Mental and Educational Tests	613	3	38, 15	...	...	...	613	3	27	...	...	...
Problems of Test Work	614	3	13	...	...	...	...	...	...	...	...	...
Laboratory in Tests and Educational Diagnosis	...	...	...	...	...	...	...	...	...	615	3	11
Binet Mental Tests	616	2	18	616	2	30	616	2	13	...	...	...
Elementary Psychological Clinic	...	...	...	...	...	...	617	2	14	617	2	8
Clinical Mental Tests	618	2	11	618	2	13	...	...	...	618	2	23
Advanced Psychological Clinic	...	...	...	619	2	7	619	2	7	619	2	9
Practicum in Mental Diagnosis	620	2	6	620	2	2	620	2	2	620	2	5
Social Psychology	621	3	32	...	...	...	621	3	64	...	...	...
Psychology of the Delinquent Child	...	...	...	...	...	...	...	...	...	622	3	52
Folk Psychology	...	...	...	623*	3	...	623*	3	...	623*	3	...
Problems in Learning and Thinking	...	...	...	...	...	...	626	3	13	...	...	...
Advanced Educational Psychology	628	3	19	...	...	...	...	...	...	628	3	18
Advanced Psychology	...	...	...	629	5	26	...	...	...	...	...	...
Psychology of Feeling and Emotion	630	5	24	...	...	...	630	5	12	...	...	...
Psychology of Vision	...	...	...	624*	5	...	624*	5	...	624*	5	...
Theory of Intelligence	...	...	...	631*	3	...	631*	3	...	631*	3	...
Criminal and Legal Psychology	...	...	...	...	...	...	634	5	45	...	...	...
Psychology of Advertising	...	...	...	635	3	45	...	...	...	635	3	61
Advertising Laboratory	...	...	...	...	...	...	636	3	3	...	...	...
Industrial Psychology	...	...	...	637	3	33	...	...	...	...	...	...
Industrial and Vocational Psychology Laboratory	...	...	...	...	...	...	...	...	...	638	3	7

* Not given in 1928–29.

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Psychology and Personnel	...	...	...	...	...	...	638	3	38	...	...	...
Education and Vocational Guidance	...	...	...	...	...	...	640	3	14	...	...	...
Abnormal Psychology	...	...	...	...	...	...	641	5	65	...	...	...
Psychopathology	...	...	...	642	3	...	642	3	...	642	3	...
Abnormal Psychology	...	...	...	...	...	...	...	...	...	643	1	75
Human Motives and Incentives	...	...	...	...	...	...	...	...	...	644	3	42
History of Psychology	645	5	7	645	5	24	...	...	...	...	...	...
Principles of Human Behavior	...	...	...	...	...	...	...	...	...	646	3	16
Theoretical Psychology	...	...	...	647	3	26	...	...	...	...	...	...
Psychology of Language	...	...	...	648*	3	...	648*	3	...	648*	3	...
Psychology of Language Laboratory	...	...	...	649*	2	...	649*	2	...	649*	2	...
Minor Problems	...	...	...	650	1+	23	650	1+	28	650	1+	44
Psychology of the Elementary School Subjects	651	3	14	651	3	14	...	...	...	...	...	...
Psychology of High School Subjects	652	3	23	...	...	...	652	3	12	...	...	...
Special Response Categories	...	...	...	653*	3	...	653*	3	...	653*	3	...
Advanced Statistics	...	...	...	...	...	...	...	...	...	654	3	6
Comparative Psychology	...	...	...	655	3	20	...	...	...	...	...	...
Comparative Psychology	...	...	...	...	...	...	...	...	...	656	3	10
Comparative Psychology Laboratory Training Course	...	...	...	657	3	4	...	...	...	...	...	...
Comparative Psychology Laboratory Training Course	...	...	...	...	...	...	...	...	...	658	3	2
Adult Testing Laboratory	...	...	...	659	3	12	...	...	...	...	...	...
The Elementary and Pre-School Child	662	3	15	...	...	...	662	3	30	...	...	...
Psychological Problems of Deans of Women	665	3	10	...	...	...	...	...	...	...	...	...
Minor Problems	670	1+	17	...	...	...	...	...	...	...	...	...
Proseminary	...	...	...	701	2	8	...	...	...	...	...	...
Major Research	801	3+	41	803	3+	47	801	3+	56	801	3+	62
Seminary in General Psychology	...	...	...	802	2	16	802	2	9	802	2	12
Seminary in Psychology	...	...	...	...	...	...	...	...	...	803	2	8
Contemporary Psychological Literature	...	...	...	805	1	12	805	1	11	805	1	18
Seminary in Abnormal Psychology	...	...	...	...	...	...	806	2	13	...	...	...
Seminary in Industrial Psychology	...	...	...	...	...	...	...	...	...	807	2	13
Psycho-Analysis	...	...	...	808	2	23	...	...	...	...	...	...
Psychological Problems in Higher Education	810	2	11	...	...	...	810	2	10	...	...	...
PUBLIC HEALTH												
Child Health	...	...	...	403	2	...	403	2	...	403	2	...

Principles of Public Health Nursing	...	...	...	...	...	...	...	...	...	404	5	10
Elementary Nursing	...	...	...	...	...	...	407	2	38	407	2	54
Public Health Nursing Field Work	...	...	...	452–3	2	...	452–2	2	...	452–3	2	...
Public Health Nursing Field Work, including Social Case Work	...	...	...	454	13	...	454	13	...	454	13	...
Seminary in Public Health Nursing	...	...	...	456	2	...	456	2	...	456	2	...
Personal Hygiene	...	...	...	...	...	...	601	3	6	...	...	...
Public Health Problems	...	...	...	...	...	...	...	...	...	602	3	24
Industrial Hygiene	...	...	...	...	...	...	...	...	...	603	3	16
Hygiene and Sanitation	...	...	...	...	...	...	604–5–6	2	76	604–5–6	2	76
Tropical Disease	...	...	...	...	...	...	...	...	...	607	2	13
Public Health: Research	...	...	...	801	5–15	...	801	5–15	...	801	5–15	...
Public Health: Research	...	...	...	...	...	...	802	5–15	1	...	...	...
Public Health: Research	...	...	...	...	...	...	...	...	...	803	5	1
ROMANCE LANGUAGES												
FRENCH												
Elementary French	401	5	26	401	5	329	401	5	149	401	5	104
Elementary French	402	5	22	402	5	112	402	5	223	402	5	127
Intermediate French	403	5	20	403	5	218	403	5	76	403	5	139
Intermediate French	404	5	16	404	5	136	404	5	140	404	5	65
Elementary Course in Reading of French	405	5	15	405	5	10	...	...	...	405	5	9
Elementary Course in Reading of French	...	...	...	...	...	...	406	5	1	...	...	...
Elementary French Conversation and Composition	410	5	6	410	5	24	410	5	36	410	5	49
Advanced French	...	...	...	413	5	68	413	5	43	413	5	38
Advanced French	414	5	6	414	5	21	414	5	48	414	5	40
French Literature of the Seventeenth Century 1600-1660	...	...	...	...	...	...	601	6	20	...	...	...
French Literature of the Seventeenth Century 1660-1700	...	...	...	602	5	25	...	...	...	...	...	...
French Literature of the Fifteenth and Sixteenth Centuries	...	...	...	...	...	...	...	...	...	605	3	22
French Literature of the Eighteenth Century 1700-1750	...	...	...	607*	3	...	607*	3	...	607*	3	...
French Literature of the Eighteenth Century 1750-1789	...	...	...	608*	3	...	608*	3	...	608*	3	...
The French Novel to 1850	...	...	...	609*	3	...	609*	3	...	609*	3	...
The French Novel—1850 to Present Day	...	...	...	610*	3	...	610*	3	...	610*	3	...
The Comedy of Manners in the Nineteenth Century 1800-1880	611	3	13	611	3	13	...	...	...	...	...	...
The Comedy of Manners in the Nineteenth Century—1880-1922	...	...	...	...	...	...	612	3	14	...	...	...
History of French Literature 942-1660	...	...	...	...	...	...	613	3	13	...	...	...
History of French Literature 1660-1922	...	...	...	...	...	...	...	...	...	614	3	22
French Lyric Poetry	...	...	...	...	...	...	...	...	...	615	3	17
Intermediate French Conversation and Composition	...	...	...	623	3	19	623	3	16	...	...	...
Intermediate French Conversation and Composition	...	...	...	...	...	...	624	3	12	624	3	15
Explication de Textes	...	...	...	625*	3	...	625*	3	...	625*	3	...

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Explication de Textes	...	...	...	626*	3	...	626*	3	...	626*	3	...
French Phonetics	627	3	13	627	3	10	627	3	16	...	...	...
Review of French Syntax	628	3	22	628	3	26	...	...	...	...	...	...
Honors Course in French	...	...	...	705–6–7	3–5	1	705–6–7	3–5	1	705–6–7	3–5	3
Introduction to Old French	...	...	...	801	3	7	...	...	...	...	...	...
Introduction to Old French	...	...	...	...	...	...	802	3	6	...	...	...
Old Provencal	...	...	...	803*	3	...	803*	3	...	803*	3	...
Old Provencal	...	...	...	804*	3	...	804*	3	...	804*	3	...
The French Romantic Novel	...	...	...	807*	3	...	807*	3	...	807*	3	...
French Romantic Drama	...	...	...	808*	3	...	808*	3	...	808*	3	...
Research in French Literature	809	3–5	7	809	3–5	4	809	3–5	5	809	3–5	4
Seminary in French Literature	811	3	11	811	3	9	...	...	...	...	...	...
Seminary in French Literature	...	...	...	...	...	...	812	3	8	...	...	...
Old French Literature	...	...	...	...	...	...	...	...	...	813	3	5
Seminary in French Literature	...	...	...	...	...	...	...	...	...	817	3	9
SPANISH												
Elementary Spanish	401	5	25	401	5	400	401	5	145	401	5	139
Elementary Spanish	402	5	11	402	5	104	402	5	279	402	5	136
Intermediate Spanish	403	5	11	403	5	125	403	5	50	403	5	137
Intermediate Spanish	404	5	7	404	5	65	404	5	59	404	5	31
Commercial Correspondence	...	...	...	...	...	...	405	5	33	...	...	...
Customs and Manners of Spain	...	...	...	...	...	...	...	...	...	406	3	18
Advanced Spanish	413	5	6	413	5	18	413	5	14	413	5	28
Advanced Spanish	414	5	4	414	5	24	414	5	10	414	5	13
Advanced Composition and Conversation	...	...	...	605	3	7	...	...	...	...	...	...
Advanced Composition and Conversation	...	...	...	...	...	...	606	3	5	...	...	...
The Modern Spanish Novel	...	...	...	607*	5	...	607*	5	...	607*	5	...
The Modern Spanish Novel	...	...	...	608*	5	...	608*	5	...	608*	5	...
Romantic Drama and Poetry of the Nineteenth Century	...	...	...	609	5	9	...	...	...	...	...	...
Modern Spanish Drama	...	...	...	...	...	...	610	5	10	...	...	...
Drama of the Golden Age	...	...	...	611*	5	...	611*	5	...	611*	5	...
Drama of the Golden Age	612	5	11	...	...	...	...	...	...	...	...	...
Prose of the Golden Age	...	...	...	...	...	...	613	5	8	...	...	...
Prose of the Golden Age	...	...	...	614	5	14	...	...	...	...	...	...
Survey of Spanish Literature from Earliest Times to end of Nineteenth Century	...	...	...	...	...	...	615	5	7	...	...	...
Survey of Spanish Literature from Earliest Times to end of Nineteenth Century	...	...	...	...	...	...	...	...	...	616	5	6

Advanced Syntax	...	...	...	617	3	14	...	...	...	...	...	...
Sound: Laboratory Phonetics	...	...	...	619*	5	...	619*	5	...	619*	5	...
Spanish Phonetics	...	...	...	620*	5	...	620*	5	...	620*	5	...
Foreign Brogue	...	...	...	621	3–5	3	621	3–5	5	621	3–5	6
Historical Phonetics	...	...	...	...	...	...	...	...	...	622	5	4
The Spanish Ballad	...	...	...	...	...	...	...	...	...	625	5	6
Minor Research: Human Speech	...	...	...	700	3–5	1	700	3–5	2	700	3–5	2
Honors Course in Spanish	...	...	...	...	...	...	706–7	3	1	706–7	3	1
Old Spanish	...	...	...	805	3	3	...	...	...	...	...	...
Old Spanish	...	...	...	806	3	...	806	3	...	806	3	...
Research in Spanish Literature	810	2–5	5	810	2–5	2	810	2–5	3	810	2–5	2
Seminary in Spanish Literature	815	3	11	815	3	2	...	...	...	815	3	7
ITALIAN												
Elementary Italian	...	...	...	401	5	20	...	...	...	...	...	...
Elementary Italian	...	...	...	...	...	...	402	5	19	...	...	...
Modern Italian Literature 1800-1850	...	...	...	...	...	...	...	...	...	601	5	6
Modern Italian Literature 1851-1900	...	...	...	602	5	5	...	...	...	...	...	...
Italian Literature of the Renaissance	...	...	...	607	3	...	607	3	...	607	3	...
Italian Literature of the Renaissance	...	...	...	608	3	...	608	3	...	608	3	...
Survey of Italian Literature to 1400	...	...	...	...	...	...	609	3	8	...	...	...
Survey of Italian Literature 1400-1900	...	...	...	...	...	...	...	...	...	610	3	6
Dante's Life and Works	...	...	...	611*	3	...	611*	3	...	611*	3	...
Dante's Life and Works	...	...	...	612*	3	...	612*	3	...	612*	3	...
RURAL ECONOMICS												
Agricultural Economics	...	...	...	401	5	45	...	...	...	401	5	39
Farm Management	...	...	...	402	5	13	...	...	...	402	5	15
Farm Bookkeeping and Business Records	...	...	...	403	3	6	403	3	5	...	...	...
Sociology of Farm Folk	...	...	...	...	...	...	405	5	14	405	5	8
Farm Cost Accounts	...	...	...	602*	3	...	602*	3	...	602*	3	...
Co-operation in Agriculture	...	...	...	...	...	...	603	5	29	...	...	...
Land Tenure	...	...	...	604	3	6	...	...	...	...	...	...
The Agricultural Industry	...	...	...	...	...	...	605	3	19	...	...	...
Sociology of Farm Folk	...	...	...	606	6	5	...	...	...	...	...	...
Rural Social Organization	...	...	...	607	3	...	607	3	...	607	3	...
Rural Social Environment	...	...	...	...	...	...	608	3	4	...	...	...
Price of Farm Products	...	...	...	...	...	...	...	...	...	612	3	22
Marketing Farm Products	...	...	...	613	5	14	...	...	...	613	5	13
Business Management in Agricultural Marketing	...	...	...	...	...	...	...	...	...	614	3	6
The Economics of Live Stock Marketing	...	...	...	...	...	...	625	3	11	...	...	...
The Economics of Marketing Dairy Products	...	...	...	626	3	8	...	...	...	...	...	...
The Economics of Grain Marketing	...	...	...	627	3	...	627	3	...	627	3	...
Special Problems	...	...	...	701	3–15	3	701	3–15	2	701	3–15	4
Research Work and Seminary in Rural Economics	...	...	...	...	...	...	801	3–15	2	801	3–15	5
SCHOOL ADMINISTRATION												
Fundamentals in School Administration	600	3	190, 82	600	3	139	600	3	143	600	3	147
Child Accounting	601	3	115, 71	601	3	22	601	3	138	601	3	119

* Not given in 1928–29.

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
The Teaching Corps	605	3	77	...	...	...	605	3	16	...	...	...
School Finance	607	3	22	...	...	...	607	3	15	...	...	...
Business Management of Schools	608	3	15	...	...	...	...	...	...	608	3	19
Extra-Curricular Activities	609	3	36	...	...	...	609	3	20	...	...	...
Administration of Rural Education	610	3	18	610	3	6	...	...	...	...	...	...
Minor Research Problems	617	2–4	12, 16	...	...	...	...	...	...	...	...	...
Minor Research Problems	...	...	...	618	2–4	7	...	...	...	...	...	...
Minor Research Problems	...	...	...	...	...	...	619	2–4	3	...	...	...
Minor Research Problems	...	...	...	...	...	...	...	...	...	620	2–4	9
Proseminary (Teachers in Service)	...	...	...	621	2	93	...	...	...	...	...	...
Proseminary (Teachers in Service)	...	...	...	...	...	...	622	2	47	...	...	...
Proseminary (Teachers in Service)	...	...	...	...	...	...	...	...	...	623	2	53
Administration of Standard Tests in Elementary Schools	624	3	13	624	3	21	...	...	...	...	...	...
Administration of Standard Tests in Secondary Schools	625	3	19	...	...	...	625	3	12	...	...	...
Administration of Health Education	626	3	24	...	...	...	...	...	...	626	3	9
Administration of Vocational Education	627	3	12	627	3	8	...	...	...	...	...	...
Administrative Problems of the Elementary School Principal	628	3	16	...	...	...	628	3	7	...	...	...
Administrative Problems of the Secondary School Principal	629	3	51, 36	629	3	22	...	...	...	...	...	...
Organization of the Junior High School	631	3	36	...	...	...	631	3	8	...	...	...
School Publicity	636	2	29	...	...	...	636	2	4	...	...	...
Administration of Special Education	...	...	...	...	...	...	...	...	...	637	3	10
Administration of the Curriculum in the Elementary School	640	3	9	...	...	...	...	...	...	640	3	7
Administration of the Curriculum in the Secondary School	642	3	42	...	...	...	642	3	16	...	...	...
Educational Statistics: Elementary	643	3	76, 42	643	3	12	...	...	...	...	...	...
Educational Statistics: Intermediate	644	3	7, 12	...	...	...	...	...	...	...	...	...
Administration of School Libraries	645	2	18	...	...	...	...	...	...	...	...	...
Planning and Construction of School Buildings	647	3	27	647	3	9	...	...	...	...	...	...
Equipment of School Buildings	648	2	18	...	...	...	...	...	...	648	2	8
Administrative Problems of the Non-Urban Secondary School Principal	650	3	40	...	...	...	...	...	...	...	...	...
Administration of the Dalton Laboratory Plan	655	2	19, 83	...	...	...	...	...	...	...	...	...
Administration of Platoon Schools	657	2	14	...	...	...	...	...	...	...	...	...
The Preparation of Theses and Other Scientific Papers	800	1	31, 29	...	...	...	800	1	7	...	...	...

Administration of Normal Schools and Colleges	801	3	6	801	3	6	...	...	...	...	...	...
Seminary in School Administration	802	2–5	20, 33	802	2–5	23	802	2–5	8	802	2–5	7
Ad Interim Projects	...	...	...	...	...	...	803	2–5	1	803	2–5	27
Major Research Problems	804	3+	19, 16	...	...	...	...	...	...	...	...	...
Major Research Problems	...	...	...	805	3	8	...	...	...	...	...	...
Major Research Problems	...	...	...	...	...	...	806	3	16	...	...	...
Major Research Problems	...	...	...	...	...	...	...	...	...	807	3	19
Social Foundations of Public School Administration	...	...	...	810*	2–5	...	810*	2–5	...	810*	2–5	...
State Administration of Education	811	3	31	...	...	...	...	...	...	...	...	...
Administration of National Systems of Education	...	...	...	812*	3	...	812*	3	...	812*	3	...
Seminary in County School Administration	815	2–5	12	...	...	...	...	...	...	...	...	...
Seminary in School Finance and Business Management	...	...	...	816*	2–5	...	816*	2–5	...	816*	2–5	...
Administrative Problems of the City Superintendent	...	...	...	...	...	...	...	...	...	830	3	7
Administration of Experimental Education	835	2	7, 6	...	...	...	...	...	...	...	...	...
Administration of the Junior College	840	3	17	...	...	...	...	...	...	...	...	...
SOCIOLOGY	...	...	...									
Principles of Sociology	401	5	34, 54	401	5	262	401	5	231	401	5	240
Principles of Sociology	402	5	53	402	5	133	402	5	188	402	5	191
Principles of Sociology	...	...	...	410	5	67	410	5	47	410	5	58
Physical Anthropology	...	...	...	411	5	34	...	...	...	...	...	...
Social Anthropology	...	...	...	...	...	...	412	5	14	...	...	...
Primitive Man in Ohio	...	...	...	500	2	...	500	2	...	500	2	...
The Family	601	5	31	...	...	...	601	5	42	601	5	23
The Immigrant	605	4	24	...	...	...	605	4	61	...	...	...
The Race Problem	...	...	...	606	4	...	606	4	...	606	4	...
The Race Problem	...	...	...	607	4	62	...	...	...	...	...	...
The Negro Problem	...	...	...	...	...	...	...	...	...	608	4	59
Poverty	...	...	...	...	...	...	618	3	32	...	...	...
Social Treatment of Dependents	...	...	...	...	...	...	619	3	34	...	...	...
Social Treatment of the Child	620	3	17	...	...	...	...	...	...	620	3	35
The Community and the Child	...	...	...	621	3	33	...	...	...	621	3	40
The Criminal	...	...	...	...	...	...	...	...	...	625	3	89
Penology	...	...	...	626	3	14	...	...	...	...	...	...
Penology	...	...	...	...	...	...	627	3	8	...	...	...
Field Work in Social Statistics	...	...	...	638	5	34	...	...	...	638	5	13
Social Statistics	...	...	...	...	...	...	638	4	34	...	...	...
Leisure and Recreation	...	...	...	645	4	41	...	...	...	...	...	...
Social Organization and Administration of Recreation Facilities	...	...	...	...	...	...	646	4	19	...	...	...
Boys' Work Organization	...	...	...	650*	4	...	650*	4	...	650*	4	...
Girls' Work Organization	...	...	...	...	...	...	...	...	...	651	4	10
Administration of Social Settlements, Community Houses, School Centers	...	...	...	652	3	...	652	3	...	652	3	...
Municipal Sociology	...	...	...	...	...	...	...	...	...	655	4	30

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Course Subject	Summer Quarter			Autumn Quarter			Winter Quarter			Spring Quarter		
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Rural Social Institutions	...	...	...	656	4	15	...	...	...	...	...	...
Welfare Problems in Rural Communities	...	...	...	...	...	...	657	4	13	...	...	...
Social Welfare Organization	...	...	...	661	2	...	661	2	...	661	2	...
The Administration of Social Welfare Federations	...	...	...	663	6	...	663	6	...	663	6	...
Social Order and Social Control	...	...	...	665	3	39	...	...	...	...	...	...
Social Evolution	...	...	...	...	...	...	666	3	16	...	...	...
Social Progress	...	...	...	...	...	...	...	...	...	667	3	31
Community Organization	...	...	...	668	3	23	...	...	...	...	...	...
Community Health Organization	...	...	...	...	...	...	670–1	3	10	670–1	3	12
Field Work in Sociology	675	6–12	14	...	...	...	675	6–12	3	675	6–12	9
Social Case Work	695	3	16	...	...	...	695	3	21	...	...	...
Social Case Work	696	3	9	...	...	...	696	3	7	696	3	10
History of Sociological Thought	...	...	...	801–2–3	2	10	801–2–3	2	9	801–2–3	2	8
American Sociological Theory	805–6–7	2	7	805–6–7	2	6	805–6–7	2	3	805–6–7	2	4
Research in Social Control	...	...	...	...	...	...	809–10	2	1	809–10	2	1
Modern Social Welfare Movements	...	...	...	811–12	4	6	811–12	4	3	...	...	...
The Community	...	...	...	...	...	...	...	...	...	815	4	4
Community Surveys	...	...	...	816	4	...	816	4	...	816	4	...
Research in the Field of Human Migrations	...	...	...	...	...	...	...	...	...	817–19	1–4	3
Graduate Seminary	821–2–3	2	6	821–2–3	2	16	821–2–3	2	12	821–2–3	2	9
Research in the History and Organization of Social Welfare Activities	...	...	...	824–5–6	1–4	...	824–5–6	1–4	...	824–5–6	1–4	...
Nationality and Nationalism	...	...	...	827	4	10	...	...	...	...	...	...
Social Classes	...	...	...	...	...	...	828	4	12	...	...	...
Social Changes through Crisis	...	...	...	...	...	...	...	...	...	829	4	12
Administration of Social Agencies	...	...	...	831–2–3	4	...	831–2–3	4	...	831–2–3	4	...
Research in Social Statistics	...	...	...	841–2–3	1–3	3	841–2–3	1–3	3	841–2–3	1–3	6
Methods of Sociological Investigation	...	...	...	845–6	3	10	845–6	3	7	...	...	...
Research in Penalogy	...	...	...	847–8–9	1–4	...	847–8–9	1–4	...	847–8–9	1–4	...
Research in Rural Social Institutions	...	...	...	850–1–2	1–4	...	850–1–2	1–4	...	850–1–2	1–4	...
SOILS												
Soil Management	...	...	...	401	5	30	401	5	29	401	5	29
Theory and Practice in Soil Management	...	...	...	601	3	12	...	...	...	...	...	...
Chemical Analysis of Soils	...	...	...	602	5	3	...	...	...	...	...	...
Origin and Classification of Soils	...	...	...	...	...	...	...	...	...	603	3	5
Physico-Chemical Analysis of Soils	...	...	...	...	...	...	604	5	4	...	...	...

Bio-Chemical Analysis of Soils	...	...	...	605	3	...	605	3	...	605	3	...
Special Problems	...	...	...	701	3–15	1	701	3–15	2	701	3–15	3
Research in Soils	801	5	2	801	5	10	801	5	7	801	5	5
Soil Seminary	...	...	...	802	1	10	802	1	8	802	1	7
Short Course	...	...	...	...	...	...	...	...	34	...	...	...
SURGERY												
Ward Clinics	...	...	...	601	2	75	...	...	...	...	...	...
Minor Surgery	...	...	...	...	...	...	...	...	...	601	3	70
Ward Clinics	...	...	...	...	...	...	602	2	76	...	...	...
General Surgery	...	...	...	602	5	59	...	...	...	...	...	...
Ward Clinics	...	...	...	...	...	...	...	...	...	603	2	75
General Surgery	...	...	...	...	...	...	...	...	...	604	5	60
Gynecology	...	...	...	...	...	...	...	...	...	605	3	60
Conference Clinics	...	...	...	607	1	77	...	...	...	...	...	...
Conference Clinics	...	...	...	...	...	...	608	1	76	...	...	...
Conference Clinics	...	...	...	...	...	...	...	...	...	609	1	75
Operative Surgery	...	...	...	...	...	...	610	2	76	...	...	...
VETERINARY MEDICINE												
Topographic Anatomy of Domestic Animals	...	...	...	404–5	5	35	404–5	5	36	...	...	...
Applied Anatomy of Domestic Animals	...	...	...	...	...	...	407	3	14	...	...	...
Anatomy of the Horse—Part III	...	...	...	410	5	41	410	5	7	...	...	...
Anatomy of the Horse—Part II	...	...	...	...	...	...	411	5	42	...	...	...
Anatomy of the Horse—Part I	...	...	...	...	...	...	412	5	1	412	5	37
General Pathology	...	...	...	...	...	...	...	...	...	421	5	35
General Pathology	...	...	...	422	2	22	...	...	...	...	...	...
Special Pathology	...	...	...	...	...	...	423	4	22	...	...	...
Special Pathology	...	...	...	...	...	...	...	...	...	424	4	23
Special Pathology of Infectious Diseases	...	...	...	426	4	15	...	...	...	...	...	...
Meat Inspecion	...	...	...	...	...	...	427	3	15	...	...	...
Parasitology	...	...	...	...	...	...	428	4	15	...	...	...
Post Mortem and Laboratory Diagnosis	...	...	...	431–2–3	½	22	431–2–3	½	22	431–2–3	½	22
Post Mortem and Laboratory Diagnosis	...	...	...	433–4–5	½	15	433–4–5	½	15	433–4–5	½	15
Histology of the Domesticated Animals	...	...	...	...	...	...	436	5	39	...	...	...
Histology	...	...	...	...	...	...	...	...	...	437	5	34
Sporadic Diseases of Large Animals	...	...	...	...	...	...	441–2	4	21	441–2	4	22
Infectious Diseases of Large Animals	...	...	...	443–4	4	15	443–4	4	14	...	...	...
Agricultural Veterinary Medicine	...	...	...	451–2–3	3	12	451–2–3	3	22	451–2–3	3	18
Materia Medica and Therapeutics	...	...	...	...	...	...	461–2	4	41	461–2	4	40
Diseases of Small Animals	...	...	...	463–4	3	21	463–4	3	21	...	...	...
Horseshoeing	...	...	...	...	...	...	465	3	25	...	...	...
General Surgery	...	...	...	466	4	21	...	...	...	...	...	...
Medical and Surgical Clinics	...	...	...	467–8–9	3	22	467–8–9	3	21	467–8–9	3	21
Medical and Surgical Clinics	...	...	...	470–1–2	3	15	470–1–2	3	15	470–1–2	3	16
Physical Diagnosis	...	...	...	473	3	22	...	...	...	...	...	...
Special Surgery	...	...	...	474–5–6	4	15	474–5–6	4	16	474–5–6	4	16
Operative Practice	...	...	...	477	1	15	...	...	...	...	...	...
Obstetrics	...	...	...	...	...	...	...	...	...	478	4	15
Hygiene and Sanitation	...	...	...	...	...	...	...	...	...	479	3	16
Ophthalmology	...	...	...	...	...	...	...	...	...	480	2	16

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Diseases of Poultry	...	...	...	...	...	...	...	...	...	481	3	23
Veterinary Medical Jurisprudence	...	...	...	...	...	...	...	...	...	485	1	14
Pathology Technic	...	...	...	...	...	...	621	2 or 5	2	621	2 or 5	1
Advanced Special Pathology	...	...	...	622	2 or 5	...	622	2 or 5	...	622	2 or 5	...
Special Anatomical Pathology	...	...	...	822	5	...	822	5	...	822	5	...
Special Bovine Pathology	...	...	...	...	...	...	823	5	1	823	5	1
Special Pathology Problems	...	...	...	824	5	1	824	5	1	824	5	1
Special Poultry Pathology	...	...	...	825	5	...	825	5	...	825	5	...
VOCATIONAL EDUCATION												
Survey of Commercial Education	501	1	7	...	...	...	...	...	...	...	...	...
Curricula for Trade and Industrial Courses	502	2	1	...	...	...	...	...	...	...	...	...
Part-time School Curricula	504	2	...	...	...	...	...	...	...	...	...	...
Methods of Teaching in Part-time Schools	502	2	...	...	...	...	...	...	...	...	...	...
Introduction to Vocational Education	506	2	6	506	2	4	...	...	...	...	...	...
Curricula for Commercial Courses	507	3	7	507	3	3	...	...	...	...	...	...
Shop Problems	510	3	...	...	...	...	...	...	...	...	...	...
Special Methods in Vocational Teaching	511	2	5	...	...	...	...	...	...	...	...	...
Special Methods in Vocational Teaching	512*	2	...	...	...	...	...	...	...	...	...	...
Principles of Part-time Education	602	2	...	...	...	...	...	...	...	...	...	...
Bases of Vocational Education	604	3	...	...	...	...	...	...	...	...	...	...
Principles of Commercial Education	605	3	5	...	...	...	...	...	...	...	...	...
Principles of Vocational Guidance	606	3	10	...	...	...	...	...	...	606	3	6
Vocational Counseling	607	3	...	...	...	...	...	...	...	...	...	...
Organization and Management of Day Industrial Schools	610	2	...	...	...	...	...	...	...	...	...	...
Organization and Management of Evening Industrial Schools	611	2	...	...	...	...	...	...	...	...	...	...
Organization and Management of Part-time Schools	612	2	...	...	...	...	...	...	...	...	...	...
Minor Problems	620	2–4	4	...	...	...	...	...	...	620	2–4	1
ZOOLOGY AND ENTOMOLOGY												
General Zoology	401	5	67	401	5	802	401	5	208	401	5	163
Elementary Zoology	402	5	36	402	5	86	402	5	552	402	5	202
General Principles of Heredity	403	5	36	...	...	...	403	5	71	403	5	141
Animal Parasites	...	...	...	...	...	...	404	5	26	...	...	...

Animal Microtechnic	...	...	...	...	...	...	...	...	...	407	3	10
Ornithology	408*	5	...	408*	5	...	408*	5	...	408*	5	...
Evolution	...	...	...	...	...	...	409	5	55	409	5	74
Elementary Zoology for Pre-Medical Students	...	...	...	...	...	...	...	...	...	411	5	117
Economic Entomology	451	5	10	451	5	33	...	...	...	451	5	37
Economic Entomology	...	...	...	...	...	...	452	5	11	...	...	...
Apiculture	453	5	3	...	...	...	...	...	...	453	5	10
Advanced Studies in Animal Heredity	...	...	...	601	3	13	...	...	...	601	3	1
Animal Ecology	604	5	...	604	5	...	604	5	...	604	5	...
Animal Behavior	...	...	...	605	3	9	...	...	...	...	...	...
Animal Behavior	...	...	...	...	...	...	...	...	...	607	3	11
Advanced Zoology of Invertebrates	...	...	...	615–16	5	15	615–16	5	14	...	...	...
Cellular Biology	...	...	...	...	...	...	...	...	...	617	5	14
Evolution of the Animal Groups	620*	5	...	620*	5	...	620*	5	...	620*	5	...
Advanced Entomology	...	...	...	651–2	5	16	651–2	5	18	...	...	...
Insect Control	...	...	...	653–4	5	7	...	...	...	653–4	5	14
Medical and Veterinary Entomology	...	...	...	...	...	...	655	5	15	...	...	...
Morphology and Development of Insects	...	...	...	656	5	5	...	...	...	...	...	...
Entomological Literature and Principles of Taxonomy	...	...	...	...	...	...	660	5	7	...	...	...
Special Problems	700	3–5	14	...	...	...	...	...	...	...	...	...
Special Problems	...	...	...	701	3–5	19	...	...	...	...	...	...
Special Problems	...	...	...	...	...	...	702	3–5	23	...	...	...
Special Problems	...	...	...	...	...	...	...	...	...	703	3–5	34
Seminary in Zoology	...	...	...	801–2–3	1	34	801–2–3	1	35	801–2–3	1	31
Invertebrate Zoology	...	...	...	805–6–7	5	6	805–6–7	1	6	805–6–7	5	5
Invertebrate Embryology	...	...	...	808–9	3 or 5	...	808–9	3 or 5	...	809–9	3 or 5	...
Research	810–11–12–13	3–10	20	810–11–12–13	3–10	26	810–11–12–13	3–10	25	810–11–12–13	3–10	22
Biological Control of Insects	814–15–16	...	11	814–15–16	5	7	814–15–16	5	8	...	5	6
Nature Study	...	3	11	...	...	...	...	...	...	...	...	...

* Not given in 1928-1929.

APPENDIX VI

* SHOWING THE WHOLE NUMBER OF DEGREES IN COURSE CONFERRED SINCE THE FOUNDING OF THE UNIVERSITY

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Bachelor of architecture																																			8	9	7	8	13	13	3	1	11	9	3	5	9	10	7	9	9	10
Bachelor of architectural engineering																																									8	1	3	8	10	13	8	8	6	14	7	17
Bachelor of arts	1	1	6	2	2	1	5	4	6	8	6	1	7	2	6	9	12	19	13	17	18	8	14	16	6	16	68	68	93	80	80	107	120	122	139	148	193	169	194	176	119	120	169	216	230	219	254	277	264	265	301	339
Bachelor of engineering																																						1	3	3	2	3	17	11	17	4	2			1		
Bachelor of ceramic engineering																																						8	8	10	7	4	10	6	10	10	4	12	12	20	29	21
Bachelor of chemical engineering																															5	6	7	10	11	10	17	18	14	17	14	6	24	21	22	40	21	26	13	10	13	16
Bachelor of civil engineering																																						21	18	26	14	9	37	28	27	33	39	47	27	29	36	43
Bachelor of electrical engineering																																						20	23	21	12	23	18	34	25	53	51	45	58	48	53	39
Bachelor of industrial engineering																																																	2	3	17
Bachelor of mechanical engineering																																						27	25	21	10	6	22	43	38	54	50	35	33	26	26	26
Bachelor of metallurgical engineering																																										5	4	10	6	6	7	8	7	9
Bachelor of engineering in mining																																						2	6	6	3	13	6	1	7	11	5	8	10	3	5	3
Bachelor of engineering physics																																														1	1	1	3	7
Bachelor of philosophy				2		2	2	1	1	2	6	7	4	8	8	5	5	19	26	27	27	31	38	37	37	37																												
Bachelor of science	5	5	1	2	5	3	2	4	2	4	4	8	2	10	7	11	7	9	4	10	10	2	7	11	5	10	7	3		1							1				4	10	14	16	21	29	23	20	10	22	16	16	19
Bachelor of science (Agr.)								1	1				2	3	3			2	4	4	5	5	7	6	6	9	5	14	23	19	32	20	22	13	58	54	99	108	124	117	43	33	89	126	103	140	118	112	97	87	86	82
Bachelor of science in applied optics																																									2			8	2	5	3	8	13	8	8	7	7
Bachelor of science in biology																																						1														
Bachelor of science in business admr																																									11	9	11	46	78	87	143	143	152	179	163	178	150
Bachelor of science in chemistry																						1	1	7	5	3	4		2	6				1	2																	
Bachelor of science in dom. science																							1	6	2	3	5	10	6	1	13	11	15	27	33	33	1															
Bachelor of science in education																															1	9	15	24	36	34	28	69	94	110	89	75	100	84	101	133	193	265	328	301	314	330
Bachelor of science in entomology																																						3	2	1												
Bachelor of science in forestry																																		3	6	11	11	8	9	10												
Bachelor of science in home economics																																					39	54	52	66	42	35	43	53	51	47	68	82	66	71	65	61
Bachelor of science in horticulture																																		2	4	3	14	18	28	23	6	4										
Bachelor of science (H. F.)																1	3	1	1	1	2	1	1		1	2	2	6	4	2	2	5	5	1			1														
Bachelor of science (I. Arts)																					1	1							1	1	1	1																					
Bachelor of science in journalism																																									2	3	5	13	8	24	26	19	26	28	38	34
Bachelor of science in landscape architecture																																									1					2	4	5	4	6
Bachelor of science (Phar)																							1	1	3		2			3	2	4	1	6	4	5	6	8	5	3	4	3	3	16	8	8	1	12	23	16	20	25
Bachelor of science in public service																																									1		1									
Bachelor of science in social admr.																																														13	17	6	11	14	21
Bachelor of science in social service																																										11	11	15	17								
Ceramic engineer																							1		3		4	2		2	13	18	13	12	13	9	6													2	
Chemical engineer																																										1			3				1		
Civil engineer in architecture																										1	2	1		2	1	5	4	4	2	1	1							1							
Civil engineer						1	1	1	3	3	4	1	2	2	7	9	7	9	11	4	8	7	3	10	11	14	9	17	15	24	26	22	33	24	16	27	26	1	1		1	1	3	1	1						1	2
Electrical engineer																																															1		1		7	13
Mechanical engineer			1		2	2	1	3	1	2	4	2	2			2	1	2	4	9	5	6	9	6	11	17	15	19	15	15	14	16	20	23	19	18	29	2										2			4	5
Mechanical engineer in electrical engineering													1	2	5	9	8	15	17	13	10	7	11	4	6	8	18	20	18	24	27	25	17	34	28	28	29	3																		
Engineer of mines			1	1		2	1	2	4	1	4	2			1	1	4	1	6	3	2	3	3	2	6	7	5	9	9	8	10	13	15	13	9	13	10	2	1				1			1					
Graduate in pharmacy											3		2	3	6	5	5	3	11	12	11	7																															
Master of pharmacy																				1		1																																
Doctor of civil engineering																																		1																		
Doctor of veterinary medicine											1		1	4		4	5		4	2	3			4	4	2	8	26	9	13	18	27	28	30	61	44	35	43	48	55	59	8	33	27	40	34	24	21	29	20	9	13	15
Master of arts													1	1	1	2			2		4	4	3	8	6	9	14	7	13	9	15	16	19	23	21	31	49	50	61	70	60	22	28	29	24	61	62	89	131	146	157	199	251
Master of arts in education																																3	4	3	2																	

APPENDIX VI—Concluded

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Master of Science				1								1	1	2	2		2		3	3	2	3	3	2	1								1	8	6	14	15	25	32	19	8	29	36	44	27	43	54	52	50	59	71
Master of Science (Agriculture)																		1	2		1						2	1	3	3	1																						
Master of Science (Dom. Sc.)																											1						1																				
Master of Science (H. F.)																				1	1	1										1																						
Master of Science in public health																																							3			1	1										
Master of Science in Social Admr.																																																	1				
Doctor of Philosophy		1															1								1		1		1		1		2	1	5	1	2	1	3	11	9	4	7	8	13	19	24	38	31	46	44	67
Doctor of Science													1					1		1																																		
Doctor of Dental Surgery																																						32	34	43	57	15	28	17	17	51	64	27	18	41	46	60
Doctor of Medicine																																						62	69	73	35	24	23	40	36	40	46	89	76	65	78	79
Juris Doctor																																		3	4	3	3	6	2	3	2		2		2	1	1	7	6	6	4	4
Bachelor of Laws															9	18	15	16	6	23	22	21	25	17	26	20	11	15	17	26	15	16	22	10	19	18	19	18	24	17	11		15	16	44	37	51	80	65	73	64	71
Master of Laws															2	4	2		6							2	3	1																									
Total	6	7	9	8	9	11	12	16	18	24	28	26	30	36	61	79	70	112	118	135	126	99	137	135	141	117	194	209	225	249	287	333	370	422	501	515	649	793	902	941	565	470	801	970	1054	1255	1382	1615	1723	1590	1755	1920
Degrees conferred during the year																1											6	0	5	6	5	15										61	67	76	100	98	176					
Totals																80											200	209	230	255	292	348										626	537	877	1070	1152	1431	1382	1615	1723	1590	1755	1920

* Statistics given prior to 1904 covered only the degrees granted at the Commencement.

1824

APPENDIX VII

SHOWING THE NUMBER OF STUDENTS IN THE GENERAL, TECHNICAL, AND PROFESSIONAL COURSES

	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09
General Courses (College of Arts)	137	151	194	245	256	322	327	358	371	419	439	403	490	496	490	551	572	630	714
Technical Courses (other Colleges, except Law)	166	259	381	368	424	453	453	511	541	603	771	888	1039	1135	1129	1262	1280	1436	1626
Professional Courses (College of Law)	....	55	67	72	65	100	132	148	191	201	220	188	166	171	179	162	153	138	132
*Graduate Students and Summer School	2	....	....	1	....	94	97	133	75	45	51	49	62	108	54	240	339	379	458
**Summer School (Shopwork)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	74	75	81	80	90
Lake Laboratory (Summer)	....	....	....	....	....	....	....	....	....	....	....	19	....	23	32	26	19	26	32
Totals	305	465	642	686	745	969	1009	1150	1178	1268	1481	1547	1757	1933	1958	2316	2444	2689	3052
Names counted twice	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	159	167	216	258
Net total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2157	2277	2473	2794

APPENDIX VII—Concluded

APPENDIX VII—Concluded

	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29
General Courses (Colleges of Arts, Commerce and Journalism, and Education)	845	865	962	1009	1139	1494	1820	2198	2220	2558	3422	3802	4147	4493	5153	5519	5588	5926	6418	6646
Technical Courses (Other Colleges Except Dentistry, Homeopathic Medicine, Law, and Medicine)	1643	1780	1979	2106	2392	2373	2491	2398	1884	2129	2733	3003	2982	2878	2791	2831	2416	2767	2545	2522
Professional Courses (Colleges of Dentistry, †Homeopathic Medicine, Law, and Medicine)	181	170	185	198	187	615	556	514	384	300	718	611	688	724	766	830	1189	876	1214	1223
Graduate Courses (Graduate School)	96	70	97	128	133	185	244	233	161	143	208	269	382	488	594	743	770	856	1045	1113
Summer Session	606	617	738	575	671	926	1010	1166	918	909	1229	1391	1543	1925	2404	2724	2807	2760	3049	3461
Lake Laboratory (Summer)	36	22	28	25	32	14	19	15	14	2	11	18	19	17	15	21	19	29	31	43
Winter Courses	159	183	273	227	203	187	173	187	119	121	178	86	121	87	76	81	73	211	112	111
Extension Course in Vocational Education	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	75	59	181	.....	.....
Extension Course in Commerce and Journalism	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	295	546	879	746
Total	3566	3707	4262	4268	4757	5794	6313	6711	5700	6162	8499	9180	9882	10612	11799	12824	13216	14152	15293	15865
Names counted twice	291	268	334	299	322	462	491	523	550	437	682	867	1032	1117	1311	1289	1131	1129	1368	1462
Net Total	3275	3439	3928	3969	4435	5332	5822	6188	5150	5725	7817	8313	8850	9495	10488	11535	12085	13023	13925	14403

* Until 1896 graduate students have been included in the first three classes.

** Until 1904 summer term students in shopwork have been included with graduate students.

† The teaching of Homeopathic Medicine in this University was discontinued on and after August 15, 1922.

APPENDIX VIII

DEGREES AND CERTIFICATES GRANTED DURING YEAR 1928-1929

SUMMER QUARTER 1928

GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

Joseph Alva Baer, A.B. (Hiram College); A.M. (University of Chicago) ..... Columbus
William Carl Beaver, A.B. (Marietta College); M.Sc. ..... Springfield
Earl Cassatt Bowman, A.B. (Miami University); A.M. (University of Chicago) ..... Columbus
Earle Radcliffe Caley, B.S. (Baldwin-Wallace College); M.Sc. ..... Columbus
Charles Samuel Clucas, B.S. in Edu. (Bowling Green State Normal College); A.M. (Columbia University) ..... Tontogany
Mary Elizabeth Conrad, B.A., M.A. ..... Salem
Mervin Arnold Durea, B.A., M.A. ..... Columbus
Harold Asahel Edgerton, B.Sc. in Edu. (Kansas State Teachers' College); M.A. ..... Iola, Kan.
Clyde Walter Gleason, Ph.B., Ph.M. (University of Wisconsin) ..... Portage, Wis.
Virgil Leland Hansley, B.A., M.A. ..... Sugar Grove
Albanus Blaine Kitzmiller, B.S. (Mount Union College); M.A. ..... Columbus
Mendel Elmer Lash, B.A., M.Sc. ..... New Washington
Zoe Emily Leatherman, B.A. (Ohio Wesleyan University); M.A. ..... Columbus
Don Carlos Mote, B.Sc. in Agr., M.Sc. ..... Corvallis, Ore.
Bert Allen Nash, A.B. (Washburn College) ..... Topeka, Kan.
Charles S. Pease, B.S. (Denison University) ..... Vanatta
Hans Jordan Peterson, A.B. (Brigham Young University) ..... Columbus
Lester Raines, A.B., A.M. (University of Illinois) ..... Columbus
Rufus Daniel Reed, B.S. (Wilmington College); M.A. ..... Lakewood
James Walter Sappenfield, A.B. (Indiana University); M.A. ..... Columbus
Rufus Hummer Snyder, B.S. (Lebanon Valley College); A.M. (Columbia University) ..... Columbus
Robert Kerr Summerbell, A.B. (Defiance College) ..... Boston, Mass.
Kuo-Hua Sun, B.Sc. in Edu., M.A. ..... Shantung, China
Edgar Flandreau Van Buskirk, A.B. (University of Rochester); A.M. (Columbia University) ..... Cincinnati
Mary Elizabeth Walker, B.A., M.A. ..... Columbus
Smiley M. Whinery, A.B., A.M. (Indiana University) ..... Columbus

(Twenty-six candidates)

MASTER OF ARTS

Miriam Gertrude Arnett, B.Sc. in Edu. ..... Botkins
Fred D. Augsburger, A.B. (Bluffton College) ..... Elida
Harold William Baker, A.B. (Oberlin College) ..... Lakewood
Wallace Thoburn Baker, A.B. (Allegheny College) ..... Jefferson
Joseph Edwin Balmer, B.S., A.B. (Ohio Northern University) ..... Sidney
Otis John Barnhill, B.S. in Edu. (Ohio University) ..... Athens
Eugene Owen Barr, B.A. (Antioch College) ..... Yellow Springs
Elizabeth Baugh, A.B. (Wilmington College) ..... Columbus
Ira Baumgartner, A.B. (Bluffton College) ..... Dola
Joseph Floyd Bemiller, B.Sc. in Edu. ..... Lancaster
Herman Davis Bishop, B.S. (Ohio University) ..... Mansfield
Camille Joseph Botte, B.Sc. in Edu. ..... Toledo
Stella Martin Bowers, B.A. ..... Westerville
Amy Margaret Boyd, A.B. (Mount Union College) ..... Steubenville
Stanley C. Boylan, B.A. (Ohio Wesleyan University) ..... Powell

Frederick Arthur Bradley, B.S. in Agr. (West Virginia University) ..... Columbus
Albert A. Burkey, B.A. ..... McDonald
Dorothy Kathryn Axline Cammarn, B.A. ..... Findlay
Charles Case, A.B. (Ohio Northern University) ..... Dayton
Frieda Friend Chapman, B.S. in Edu. (Ohio University) ..... Plain City
Howard Edward Claggett, B.S. (Denison University) ..... Hebron
Annie May Colburn, B.S. in Edu. (Kent State Normal College) ..... Quaker City
Rose Lee Cole, B.A. (Martha Washington College) ..... Bluefield, W. Va.
Elizabeth Marion Comly, A.B. (Vassar College) ..... Columbus
Sara Corinna Compher, B.A. ..... Piedmont
Merrill Zenas Conn, B.Sc. in Agr. ..... Belle Center
Fred Raymond Davis, B.Sc. in Agr. ..... Belle Valley
Harold Jerome Davison, B.S. (Otterbein College) ..... Canton
Edith Deming Dawson, B.S. (Otterbein College) ..... Monclova
Elizabeth Carrol Day, B.Sc. in Edu. ..... Columbus
George Frederick Dell, A.B. (Capital University) ..... Columbus
Edrie Asenath DeLong, B.A. (Ohio Wesleyan University) ..... Columbus
Edward Dickerson, A.B. (West Virginia Collegiate Institute) ; B.A. ..... Columbus
Edward Noble Dietrich, B.A. (Ohio Wesleyan University) ..... Bucyrus
William Arthur Driscoll, A.B. (Wilmington College) ..... Centerville
Harley Howard Druhot, B.A. ..... Mowrystown
Hazel Jeannette Faringer, B.Sc. in Edu. ..... Columbus
John Baptist Fauber, B.S. in Edu. (Ashland College) ..... Columbus
Arbor Dell Fields, B.Sc. in Agr. ..... Ashville
Mary Ellen Fitzgerald, B.Sc. in Edu. ..... Nowata, Okla.
Helen Jean Flaugher, A.B. (Miami University) ..... Urbana
Virgil Lewis Flinn, A.B. (West Virginia University) ..... Ravenswood, W. Va.
John William Flood, E.E., B.S. in Edu. (Ohio University) ..... Akron
Stanley Asbury Frampton, A.B. (Wittenberg College) ..... Bellefontaine
Harold Dale Furst, A.B. (Rio Grande College) ..... Gallipolis
Francis Wiley Gill, B.A. (Maryville College) ..... Columbus
Starke Rosecrans Hathaway, A.B. (Ohio University) ..... Athens
Seth Edson Haven, B.S. in Edu. (Ohio University) ..... Athens
Robert Casad Hockett, B.A. ..... Worthington
Jay William Holmes, A.B. (Hiram College) ..... Dayton
Hubert Coleman Howard, B.A. (Ohio Wesleyan University) ..... Xenia
Frederick Howard Huston, B.Sc. in Edu. ..... Columbus
Hazel Hanna Huston, B.Sc. in Home Econ. (University of Cincinnati) ..... Columbus
Harold Nels Johnson, B.Sc. in Edu. ..... Columbus
Frances Elizabeth Jones, B.A. ..... Dayton
Florence Rebecca Kamber, B.Sc. in Edu. ..... Alliance
Lloyd Morton Kaufman, B.S. (Ohio Wesleyan University) ..... Attica
Carrie May Keller, B.Sc. in Edu. ..... Tulsa, Okla.
Russell Emerson Kessler, B.A. (Ohio Wesleyan University) ..... Columbus
Edna Hostettler Keyser, B.A. (Davis and Elkins College) ..... Belington, W. Va.
Frederick Lewis Kinley, B.S. (Heidelberg University) ..... Findlay
Alma Jordan Knauber, B.Sc. in Edu. ..... Cincinnati
Helen May Kramer, A.B. (Wittenberg College) ..... Mansfield
Cloyce Ivan Landis, B.S. in Edu. (Kent State Normal College) ..... Conneaut
Benjamin Franklin Lemert, B.Sc. in Bus. Adm. ..... Columbus
Ruth Anne Locher, A.B. (Bluffton College) ..... Bluffton
Clement Searl Logsdon, B.Sc. in For. Service (Georgetown University) ..... Columbus
Isabel Virginia Long, B.Sc. in Edu. ..... Columbus
Perl Jennings McCullough, B.A. (Ohio Wesleyan University) ..... Mt. Gilead
Herbert Barrett McVey, A.B. (Wilmington College) ..... Leesburg
William Metzger Malehorn, A.B. (Findlay College) ..... Columbus
John William Markland, A.B. (De Pauw University) ..... Terre Haute, Ind.
Harry Arthur Matheny, B.S. in Edu. (Ohio University) ..... Marietta
Walter Calvin Matheny, A.B. (Ohio Northern University) ..... Ada
Delton Burton Metzger, A.B. (Heidelberg University) ..... Kenton
William Wilbur Miller, A.B. (Goshen College) ..... Columbus
Gilbert Emory Mills, A.B. (Otterbein College) ..... Westerville
Victoria Luke Mircheff, B.A. ..... Columbus

Amy Erle Montgomery, A.B. (Denison University) ..... Newark
Otis Luther Mullikin, A.B. (University of Kentucky) ..... Millersburg, Ky.
Frederic Ross Narragon, B.S. in Edu. (Ohio Northern University) ..... Clyde
Gurney Elliott Nelson, A.B. (Lincoln University) ..... Columbus
Dana Wilson Niswender, Ph.B. (Kenyon College) ..... Tiffin
Juanita Marie Pace, A.B. (Ohio University) ..... Roscville
Edith Murray Peck, B.Sc. in Edu. ..... Chardon
Emma Helen Pond, B.A. ..... DeGraff
Jesse Joseph Pugh, B.Sc. in Bus. Adm. ..... Zanesville
Elizabeth Payne Roberts, B.A., B.Sc. in Edu. ..... Columbus
Elinor Alice Rossbach, B.A., B.Sc. in Edu. ..... Columbus
Raymond Harold Rubrake, A.B. (Marietta College) ..... Lowell
Flora Ella Scherer, B.S. (The College of Wooster) ..... New Philadelphia
Freda Anna Schulz, B.A. ..... Columbus
Gladys Evangeline Sechrist, B.A. (The College of Wooster) ..... West Salem
Frank Merrick Semans, B.A. ..... Columbus
John Spencer Singleton, A.B. (Wilmington College) ..... Middletown
Herbert Cady Smith, Ph.B. (Denison University) ..... Toledo
Robert Carpenter Sollars, B.A. (Ohio Wesleyan University) ..... Washington C. H.
Wesley Lloyd Sprouse, A.B. (Ohio University) ..... Kenton
Paul William Stansbury, B.S. (Wesleyan University) ..... Toledo
Jesse William Steiner, A.B. (Bluffton College) ..... Toledo
Lester Hendren Stimmel, A.B. (Capital University) ..... Columbus
Clarence Lester Stingley, B.S. (Wilmington College) ..... West Elkton
Homer Lyman Swick, B.S. in Edu. (Ohio University) ..... Vinton
Raymond Andrew Swink, B.A. (Ohio Wesleyan University) ..... Wapakoneta
Harvey Don Teal, A.B. (Defiance College) ..... Canton
Olin Eugene Thomas, B.Sc. in Bus. Adm. ..... Columbus
Arnold Mitchell Thompson, A.B. (Wittenberg College) ..... Springfield
Marion Zacheus Thompson, B.A. (Phillips University) ..... Columbus
Lilian Gertrude Tressel, B.S. in Edu. (Bowling Green State Normal College) ..... Fremont
Edith Sarah Vance, B.Sc. in Edu. ..... Columbus
Howard Claire Vannorsdall, B.S. in Edu., A.B. (Ohio Northern University) ..... Jeffersonville
Harvey Ray Wagner, B.Sc. in Agr. ..... Campbellstown
Huldah Mae Warfield, B.S. in Edu. (Ohio University) ..... Belpre
Anne Bernadine Whitmer, B.A. ..... Columbus
Ray George Wood, B.S. in Edu. (Ohio Northern University) ..... Cincinnati
Ruth Jelen Wood, B.A. ..... Cincinnati
Grace Isabel Woodson, A.B. (Oberlin College) ..... Wilberforce
Leonard Wyatt, A.B. (Centre College) ..... Columbus

(One hundred and eighteen candidates)

MASTER OF SCIENCE

Eugene Lincoln Bailes, A.B. (Ohio University) ..... Athens
Ralph Ubert Battles, B.Sc. in Agr. ..... Columbus
Frank Cleveland Bolton, B.Sc. in Elect. Eng. (Mississippi Agricultural and Mechanical College) ..... College Station, Tex.
Clarence Raymond Cooper, A.B. (Ohio University) ..... Athens
Charles Hughes Crawford, B.S. in Agr. (Purdue University) ..... Cortland
Florence Belle Darrah, B.Sc. in H.E. ..... Marietta
Marsena Anne Galbreath Dennis, A.B. (Marietta College) ..... Marietta
John Hoffman rb, B.A. (Pennsylvania State College) ..... Harrisburg, Pa.
Alfred Monroe Ewing, A.B. (Rio Grande College) ..... Mt. Sterling
Norma Augusta Frank, B.Sc. in Agr. ..... Berea
Robert Miller Geist, A.B. (Capital University) ..... Columbus
Roy Nathan Giles, B.S. in Chem. Engr. (South Dakota School of Mines) ..... Mitchell, S. D.
Edgar Allen Herr, B.A. ..... Bluffton
Tajamul Husain, B.S. in Cer. Engr. (Alfred University) ..... Hyderabad, India
Morris Cecil Leikind, B.A. ..... Cleveland
Hiram Russell Mason, B.E.E. ..... Zanesville
Sadie Lee Oliver, B.S. (College of Industrial Arts-Texas State College for Women) ..... Denton, Tex.
Ralph Gardner Owens, B.E.E. ..... West Alexandria

Merton Dale Oyler, B.Sc. in Agr.....Hamilton
John Roland Patty, A.B. (Wittenberg College).....Vandalia
Richard Stanley Shutt, A. B. (Kenyon College).....Columbus
Fred Eugene Ullery, B.M.E.....Covington
Cloden J. B. Waugh, A.B. (Findlay College).....Columbus
Austin Birdine Wilder, B.Sc. in Edu.....Columbus
Anna Louise Wilson, B.A. (Ohio Wesleyan University).....Columbus

(Twenty-five candidates)

CANDIDATES FOR TWO DEGREES

Helen Irene Alexander.....Columbus
Bachelor of Arts
Bachelor of Science in Education

Catherine Elizabeth Bauer.....South Webster
Bachelor of Science
Doctor of Medicine

Robert Homer Hilliard.....Laurelville
Bachelor of Arts
Bachelor of Science in Education

Clayton Henry Huff.....Fresno
Bachelor of Arts
Bachelor of Science in Education

Zora May McGlashan.....Columbus
Bachelor of Arts (With honors)
Bachelor of Science in Education

(Five candidates)

COLLEGE OF AGRICULTURE

Acting Dean: J. I. FALCONER

BACHELOR OF SCIENCE IN AGRICULTURE

Hugh Kenneth Clifton.....New Holland
Ralph Monroe Foltz.....Greentown
Kermit Nelson Morse.....Milford Center
Earl Russell Ohmes.....Olmstead Falls
Joseph Clark Timmons.....Columbus

(Five candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Estelle Barton.....Miamisburg
Mary Elizabeth Chenoweth.....Harrisburg
Gratia Ethel Lemasters.....Ravenna
Mary Frances Smith.....Columbus
Bernice Cecil Sutherland.....Fort Recovery

(Five candidates)

COLLEGE OF LIBERAL ARTS

Acting Dean: GEORGE R. HAVENS

BACHELOR OF ARTS

*Helen Irene Alexander.....Columbus
Louise Barber.....Columbus
Frances Louise Barrett.....Chillicothe

* Two degrees

Alden Christian Baughman.....Columbus
Walter Albert Bausch.....Grove City
Joseph E. Bausman.....Piqua
Bertha Hawkins Buckingham (with honors).....Columbus
Forrest Keith Butler.....Columbus
Edith Mae Carroll, B.Sc. in Edu.....Columbus
Ada Carver.....Columbus
Ida Brown Chalfant.....Columbus
Paul Bernard Cochran.....Erie, Pa.
Herbert Hugh Cole.....Perrysville
Virginia Carolyn Cooley (with distinction in English).....Galena
Marie Adelene Cooper.....Dayton
Chester Owen Cramer.....Amlin
Nancy Newell Darling.....Warsaw
Bessie Lamont Detwiler.....Brookville
Mary Agnes Donoghue.....Dayton
Mollie Ernestine Dunlap.....Wilberforce
Eustacius Anthony Durbin.....Danville
Betram Lewis Enos.....Winthrop, Mass.
Jessie Oris Feuer.....Cleveland
Jane Fowler.....Cincinnati
Amilio Arthur Gallitto.....Cleveland
Ada Ethel Gillette.....Georgetown
Robert Thistlethwaite Gillis.....Martins Ferry
Ethel Heaney Hamill, B.Sc. in Edu.....Cleveland
John Alexander Cassidy Hamill.....Cleveland
Jack Herman Handelman.....Cleveland
Laurence Albert Heinrich.....Lakewood
*Robert Homer Hilliard.....Laurelville
Romeo Lemuel Horne.....Columbus
*Clayton Henry Huff.....Fresno
Edwin Henry Kahler.....Sandusky
Hannah Lucille Kerlin.....Toledo
Richard Novel Knapp.....Dorset
Vaughn Price Lewis.....Thurman
*Zora May McGlashan (with honors).....Columbus
John Marshall Matthias.....Columbus
Jaya Prakash Narayan.....Patna, Bihar, India
Paul Eugene Nelson.....Columbus
Ellen Waller Reed.....Columbus
Arthur Jacob Ritari.....Fairport Harbor
Pierce Thomas Robson.....Grafton
Abe Shapiro.....Dayton
Clayton Frederick SinClair.....Lima
Fay Mona Smith.....Indianapolis, Ind.
John Ewing Smith.....Quincy
Douglas Garrett Sroufe.....Bethel
Ann Eleanor Sykora.....Akron
Helen Virginia Taylor.....Steubenville
Mary Elizabeth Teeter.....Columbus
Evelyn June Whetsel. B.Sc. in Edu.....Columbus
George William Wiley.....Toledo
Abraham Jacob Wise.....Columbus
Leonard George Wise (with Honors).....Springfield
William James Young.....Columbus

* Two degrees.

(Fifty-eight candidates)

Bachelor of Science

*Catherine Elizabeth Bauer.....South Webster

* Two degrees.

(One candidate)

College of Commerce and Administration

Acting Dean: Walter C. Weidler

Bachelor of Science in Business Administration

Joseph Andrew Babbert	Columbus
John Robert Pike Bing	Cleveland
Harry Chester Briggs, Jr.	Olmsted Falls
Fred Samuel Britton	Solon
Earl Jacob Brothers	Columbus
Elmer William Coy	Dayton
John Franklin Darby	Wauseon
Lowell Emerson Dever	Portsmouth
Clarence Gesell	Richmond, Ind.
William Bentley Grace	Steubenville
Fred Howe Grim	Toledo
Donald Arthur Hart	Newton Falls
Orro David Hensel	Cuyahoga Falls
Carlos Eugene Hill	Amherst, Mass.
Myron Stuart Kem	Dayton
George Edward Miller	Fremont
Louis Nagy	Huron
Howard Marvin Quackenbush	Cincinnati
Alan Irving Root	Medina
Robert Sale Rudy	Columbus
Joseph Theodore Saiter	Columbus
Melvin Wesley Shaw	Columbus
Harold Edward Sullivan	Thompson
Harry Tarschis	Toledo
Ruth Anderson Tweedie	Walton, N. Y.
Leroy Carl Van Kirk	Washington, Pa.

(Twenty-six candidates)

Bachelor of Science in Journalism

Vera Mae Lamprecht	Columbus
Mary Frances Sacket	Columbus
Henry Strain Walker	Hillsboro
Ruth Ann Marie Ward	Columbus

(Four candidates)

Bachelor of Science in Social Administration

Seville Firth	Cleveland Heights
Vera Kratky	Columbus
Imogene Hoyman Loose	Columbus
Anne Conklin Whinery	Toledo

(Four candidates)

College of Dentistry

Dean: Harry M. Semans

Doctor of Dental Surgery

Carl William Hahn	Coshocton
Ralph Asriel Jaffee	Cleveland
Harry Leroy Knox	Columbus
Julian Torbert Laishley	Wheeling, W. Va.
Rowland Edwin Oldham	Akron
Bret Leo Ruess	Cleveland

(Six candidates)

College of Education

Acting Dean: Edwin W. Pahlow

Bachelor of Science

*Helen Irene Alexander ..... Columbus
Helen Ashbrook ..... Columbus
Luella McFarlin Ater ..... Columbus
Edna Ferne Atkinson ..... Akron
Marjorie Marion Aylesworth ..... East Cleveland
Twila Agnes Bair ..... Burghill
Bertha Mae Baker ..... Kinsman
Alice Evelyn Basinger ..... Columbus Grove
Benjamin John Bishop ..... Middletown
Elizabeth Cotton Bright, B.A. (De Pauw University) ..... Thornville
Eleanor Josephine Brown ..... Geneva
Margaret Martha Carter ..... Columbus
Frank Daniel Cochran ..... Marengo
Josephine Cora Di Tirro ..... Cleveland
Wilson Randle Dumble ..... Marion
Sara Marie Durnell ..... Warren
Ethel Dale Edwards ..... Mingo Junction
Pauline Wilma Eitle ..... Lakewood
Blanche Early Evans ..... Columbus
Ruth Jeannette Ewing ..... Columbus
Mae Fassett ..... Findlay
Clyde Foster ..... Seymour, Ind.
Dorothy Campbell Foster ..... Youngstown
Gladys Mary Frederick ..... Vinton
Katherine Elinor Freeland ..... Columbus
Helen Marie Fuessner ..... Cleveland
Dale Wayne Gates ..... Mt. Gilead
Esther Emily Gerber ..... Toledo
Alice May Gerding ..... Pemberville
Vivian Elmira Hall ..... Westerville
Ethel Robinson Helser ..... Unionville Center
Estelle Henderson ..... Columbus
*Robert Homer Hilliard ..... Laurelville
Myrth Edna Hosler ..... Findlay
*Clayton Henry Huff ..... Fresno
Ivan Dean Irick ..... Rushsylvania
Helen Rebecca Jackson ..... Mt. Gilead
Millicent Jackson ..... Columbus
Velma Odette Johnson ..... Powell
Herbert William Jones ..... Sewickley, Pa.
Ruth Marie Jones ..... Kittanning, Pa.
Gertrude Mathilda Kern ..... Dayton
Agnes Jane Kerrigan ..... Washington C. H.
Clara Ella Kingrey ..... Wilgus
Miriam Frances Kirschner, A.B. (University of Michigan) ..... Peebles
Robert Wesley Lee ..... Columbus
Gertrude Minnie Lewis ..... Waynesburg, Pa.
Mary Elizabeth Lewis ..... Columbus
Earl Russel Lynham ..... Cleveland
*Zora May McGlashan ..... Columbus
Ethel Faye McLeod ..... Columbus
Clinton Olmsted Mack ..... Columbus
Roy Milton Marine ..... Clarksburg
Walter Hobson Marquis ..... Alliance
Alvina W. Mattison ..... Toledo
Winona Helen Medaugh ..... Paulding
Clara Bertha Mehlmann ..... Bellaire

* Two degrees.

Beatrice A. Millard.....Niles
Blanche Lucille Moorehead.....Logan
Romaine Morgan.....Columbus
Walter Finley Moser.....Minerva
Helen Wise Neff.....Bucyrus
Mary Constance Newcomb.....Cleveland
Floy Rosamond Ogan.....Cumberland
Helen L. O'Neill.....Columbus
Jane Lucile Palmer.....Warren
Edna Elizabeth Parish.....Richwood
Lois Alma Ringgenberg.....Genoa
Grace Winifred Rosevear.....Youngstown
Ray Burdette Roshon.....Basil
Kathleen Henrietta Roux.....Stryker
Evelyn Carolyn Runkle.....Kinsman
Ross Angelo Sciarrotta.....Yorkville
Robert William Sharp.....South Vienna
Elizabeth Murray Shaw.....Utica
Elsie Gail Cramer Sheets.....Green Springs
Katherine Snedeker.....Canton
Josephine Miller Sparks.....Basil
Sara Agnes Stanton.....Cleveland
Esther Edythe Stonerock.....Columbus
Gladys Coritha Stonerock.....Columbus
Elizabeth Alita Taylor.....Congo
Gertrude Elinor Taylor, B.A. (Livingstone College).....Columbus
Freda Frances Trumbull, A.B. (Cedarville College).....Belle Center
Margaret Gwendolyn Turney.....Gahanna
Esther Monica Weber.....Sullivan
Eugene John Weigel.....Cleveland
Margaret Cleora Wiley.....Coldwater
Myrtle Marie Wolfe.....Columbus
Lewis Warner Zulauf.....Mt. Gilead

(Ninety candidates)

* Two degrees.

College of Engineering

Dean: Embury A. Hitchcock

Bachelor of Chemical Engineering

Thomas Charles Chadwick.....Columbus
Kenneth Ell Steele.....Toledo

(Two candidates)

Bachelor of Civil Engineering

Harry Birnbaum.....Cleveland
Oscar Theodore Morgan.....Middletown

(Two candidates)

Bachelor of Electrical Engineering

Charles Richard Klinger.....Dayton

(One candidate)

Bachelor of Engineering Physics

Arthur William Fleming.....Columbus
Arthur Leroy Phillips.....Tontogany

(Two candidates)

BACHELOR OF INDUSTRIAL ENGINEERING

Cabel Lawrence Zema.....Barberton

(One candidate)

BACHELOR OF MECHANICAL ENGINEERING

Louis Augustus Roebuck.....Marion
William Thomas Wagner.....Columbus

(Two candidates)

COLLEGE OF MEDICINE

Dean: JOHN J. UPHAM

DOCTOR OF MEDICINE

*Catherine Elizabeth Bauer.....South Webster
Lena Beatrice M. Holladay.....Hillsboro
David Magid, B.A.....Cleveland
Ralph Emerson Ramey, B.A.....Rock Camp
John Paul Sauvageot.....Columbus
Kenneth Parker Scott.....Elyria
George Byron Watson, B.A.....Conneaut

* Two degrees.

(Seven candidates)

AUTUMN QUARTER, 1928

GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

Robert Kemble Fletcher, B.A. (University of Maine); M.A.....College Station, Tex.
Walter Abraham Flick, A.B. (Bridgewater College); M.A. (Washington and Lee University).....Lexington, Va.
Carl Maynard Frasure, B.A., M.A.....Stoutsville
Clarence Holmes Growdon, B.S. in Edu. (Ohio University); M.A.....Athens
Marion Jewell Hay, A.B. (University of Illinois); M.A.....Irving, Kan.
Esther Martha Mitchell, A.B., A.M. (Vassar College).....Paterson, N. J.
William Jay Schoene, B.Sc. in Agr. (University of Kentucky); M.S. (University of Chicago).....Blacksburg, Va.
Kwan Yau Tang, B.S., M.S. (University of Michigan).....Honolulu, Hawaii
Harry Hull Vannorsdall, B.S. in Edu. (Ohio Northern University); M.A.....Bowersville
Alethea Hebron Washington, Ph.B. (University of Chicago); M.A.....Wilberforce

(Ten candidates)

MASTER OF ARTS

Edward Robert Abernathy, B.A.....Columbus
Eldon Douglas Adams, B.S. (Michigan Agricultural College).....Elyria
Imilda Loraine Boyd, B.A. (The College of Wooster).....Columbus
Vernon Doyle Campbell, B.A.....West Chester
Clarence Henley Cramer, B.A., B.Sc. in Edu.....Columbus
Jessie Lenora Fry, B.Sc. in Edu.....Columbus
Ohmer Pauldin Gump, A.B. (Oberlin College).....Covington
Marathon Eby High, A.B. (McPherson College).....Columbus
Claire Viola Hoffert, A.B. (Otterbein College).....Columbus
Margaret Naomi Lee, B.Sc. in Edu.....Columbus
Frederick Hillis Lumley, B.A.....Columbus

Lucille Elizabeth Mercer, B.Sc. in Edu.....Columbus
Harry James Russell, B.A. (Brigham Young University).....Salt Lake City, Utah
Myron Teal Seifert, B.Sc. in Edu.....Bremen
Earl Patterson Shepherd, B.S. (Muskingum College).....Chesterhill
William Raymond Smittle, A.B. (Ohio University).....Oak Hill
Esther Sullivan, A.B. (Otterbein College).....Duke Center, Pa.
John William Tait, B.A.....Columbus
James Thomas Taylor, B.A. (National Training School) ; B.Sc. in Edu.....Columbus
(Nineteen candidates)

MASTER OF SCIENCE

Ray Geddes, B.S. in Ind. Chem. (Kansas State Agricultural College).....Wellington, Kan.
Thurman Stewart Peterson, B.S. (California Institute of Technology).....Hollywood, Calif.
(Two candidates)

CANDIDATE FOR TWO DEGREES

Irving Joseph Stone.....Columbus
Bachelor of Arts
Bachelor of Science in Business Administration
(One candidate)

COLLEGE OF AGRICULTURE

Acting Dean: CARL WARREN GAY

BACHLOR OF SCIENCE IN AGRICULTURE

Henry Jackson Apple.....Lima
Gale William Bachelder.....Mt. Gilead
Floyd Burdette Boyer.....Basil
John Henry Clark.....Agosta
Ray Thomas Everly.....Columbus
Delmar McCormick Glenn.....McConnelsville
Harold Charles Hodson.....New Vienna
Paul Raymond Hoff.....Lisbon
Edward Roy Jenkins.....New Carlisle
Joseph Nelson Maxwell.....Chandlersville
Robert Edward Straszheim.....Lewisburg
Clarence Merrill Weimer.....New Carlisle
(Twelve candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Emily May Carlton.....Mantua
Frances Eaton Fankhauser.....Columbus
Florence Mercedes Harris.....Columbus
Jeannette Leyshon Lawson.....Columbus
Hilda McCray.....Dayton
Ethel Jane Roberson.....Cleveland
Martha Cornelia Ward.....Chardon
(Seven candidates)

COLLEGE OF LIBERAL ARTS

Dean: WALTER J. SHEPARD

BACHELOR OF ARTS

William Thomas Barnes.....Zanesville
Frederick George Beyerman.....Bowling Green
Raymond Earl Clouse.....Columbus

Clyde Brady Cochran.....Columbus
George Albert Handel.....Newark
Robert Ray Henderson.....Ashland
Nancy Benell Katz (with honors).....Columbus
Ann Townsend Lindenberg.....Columbus
Mary Louise McFadyen.....Columbus
Warren Gerard Muchmore.....West Chester
Lois Pearl Sheets.....Cleveland
Jacob George Sheetz.....Bucyrus
Howard Perry Simons.....Columbus
*Irving Joseph Stone.....Columbus
Cleland Barker Thomas.....Bay Village
Samuel Nathan Weiner.....Cleveland
Dorothy Simpson Wilson.....Columbus
* Two degrees

(Seventeen candidates)

College of Commerce and Administration

Acting Dean: Walter C. Weidler

Bachelor of Science in Business Administration

Clifford Eldean Belding.....Wauseon
Max Jacob Birzer, Jr.....Canton
Eugene Son Bonner.....Bellaire
Leslie Paul Coldsnow.....Montpelier
Joseph Tynan Dempsey.....Sandusky
Cecil Oren Dudley.....Columbus
Harry Raymond Edwards.....Columbus
Hallie James Ensign.....East Cleveland
Carlyle Walter Evans.....Delphos
William Harold Hagy.....Etna
Frances Mildred High.....Hilliards
John Chandler Hopkins.....Columbus
Marion Eleanor Kappenberg.....Plymouth
Charles Henry King.....Columbus
Charles Herman Lindenberg.....Columbus
Matthew Wilson McConnell.....Coshocton
Theodore Dixon Morlang.....Parkersburg, W. Va.
Floyd Oland Morris.....West Manchester
Paul Cross Morrison.....Columbus
*Irving Joseph Stone.....Columbus
Alec Miller Wark.....Columbus
Leonard Coleman Waters.....Paulding
Eugene Henry Wilson.....Van Wert

(Twenty-three candidates)

Bachelor of Science in Journalism

Glenn Robert Jolley.....Mansfield

(One candidate)

Bachelor of Science in Social Administration

Sabina Eva Petzinger.....Columbus
Blanche Stedman Stewart.....Columbus
Gertrude Tempkin.....Cleveland
* Two degrees

(Three candidates)

College of Education

Dean: George Frederick Arps

Bachelor of Science in Education

Isla Snider Bowser.....Hanover
William John Brown.....Logansport, Ind.
Hazel Mercy Coy.....Toledo
Arline Marie Ebenhack, B.A.....Columbus
Herald Le Roy Farling.....Phalanx Station
Roy Ellsworth Ferguson.....Steubenville
Dorothy Elizabeth Green.....Columbus
Oliver Hoffman.....Cleveland
Luette Helen Kuhlman.....Toledo
Oscar Lawrence, B.A.....Columbus
Charles Jacob Le Page.....Cambridge
Florence Lowry.....Groveport
Maxwell Jerome Papurt.....East Cleveland
Josephine Theresa Raffeis.....Toledo
George Nathan Rice.....Columbus
Mary Bowman Rumburg.....Macedonia
Arthur Shibler.....Milford Center
Goldie Lee Silverman.....Columbus
Elizabeth Free Thompson.....Columbus
Lillian Marie Trowbridge.....Portsmouth
Allen Bird Turnbull.....Cedarville
Anne Lucille Wampler.....Dayton
Sylvia Shepard Westerman.....Columbus
Hazel Beatrice Wheeler.....Lilley Chapel
Isabel Mildred Young.....Columbus

(Twenty-five candidates)

Bachelor of Landscape Architecture

Laddie James Mitiska.....Cleveland

(One candidate)

College of Engineering

Dean: Embury A. Hitchcock

Bachelor of Architecture

Laddie Frank Cervenka.....Lorain
Errol William Jones.....Columbus

(Two candidates)

Bachelor of Architectural Engineering

Alvin Henry Moellenkamp.....Wapakoneta

(One candidate)

Bachelor of Ceramic Engineering

Edgar Littlefield.....Columbus
James Harold Page.....East Cleveland
Ray Alfred Snyder.....Columbus

(Three candidates)

Bachelor of Civil Engineering

Howard Stanley Baughman.....Ansonia
Sheridan Black.....Columbus
Sherman Black.....Columbus

Rodney Brooks Harwood.....Rushtown
Maurice Lubin.....Cleveland
Christopher McClusky.....Brookville
Carl William Schoene.....Columbus
Ewart Carl Shreve.....Akron
Elmer Frederick Stansberry.....Dayton
William Paul Tooley.....Troy
Willard O. Wilcox.....Walbridge

(Eleven candidates)

BACHELOR OF ELECTRICAL ENGINEERING

Clair E. Boger.....Canton
Walter George Musgrove.....Bowdill

(Two candidates)

BACHELOR OF INDUSTRIAL ENGINEERING

Ralph Seal Paffenbarger, B.E.E.....Columbus
John Megginson Russ.....Columbus
Edwin C. Schmidt.....Columbus

(Three candidates)

BACHELOR OF MECHANICAL ENGINEERING

Samuel William Riley.....Columbus
John Edward Shriver.....Cincinnati
Harold Millard Wade.....Washington C. H.

(Three candidates)

BACHELOR OF METALLURGICAL ENGINEERING

Charles Patterson Jeckell.....Youngstown

(One Candidate)

COLLEGE OF MEDICINE

Dean: JOHN H. J. UPHAM

DOCTOR OF MEDICINE

J. Rollins McGriff.....Greenville

(One Candidate)

COLLEGE OF PHARMACY

Dean: CLAIR ALBERT DYE

BACHELOR OF SCIENCE IN PHARMACY

Earl Preston Taylor.....Dayton
Harry Stanley Tucker.....Cleveland
Armond LeRoy Weakley.....Baltimore

(Three Candidates)

WINTER QUARTER, 1929

GRADUATE SCHOOL

Acting Dean: HOMER C. HOCKETT

DOCTOR OF PHILOSOPHY

Lilburn Allen, M.Sc. in Agr. (University of Kentucky).....Sebree, Ky.
John Leroy Clifton, B.S. in Edu. (Ohio University).....Columbus

Clarence Oliver Lehman, A.B. (Bluffton College) ; M.A. ..... Columbus
Paul Herman Mautz, B.Sc. in Agr., M.Sc. ..... Marion
Paul George Minneman, B.A., M.Sc. ..... Sidney
John Maynard Purdy, A.B. (DePauw University) ; M.A. ..... Fillmore, Ind.
(Six candidates)

MASTER OF ARTS

Martha Frances Beede, A.B. (Oberlin College) ..... Columbus
Clara Belle Blackburn, B.A. (Muskingum College) ..... Cumberland
Howard Schuler Carroll, B.S. in Edu. (Miami University) ..... Columbus
Ralph Waldo Cordier, A. B. (Manchester College) ..... Hartville
Delores Dehus, B.S. in Edu. (Ohio Northern University) ..... Chillicothe
Henry Arthur Fankhouser, B.A. ..... Shreve
Fred Walker Fletcher, A.B. (Miami University) ..... Prospect
John David Geiger, A.B. (Bluffton College) ..... Mt. Vernon
Fred Wengerd Heimberger, B.A. ..... Columbus
Kathryn Percival Holt, A.B. (University of Tennessee) ..... Columbus
Dwight Burris Ireland, B.A. ..... Columbus
Therl Leonald Johnson, B.A. (Ohio Wesleyan University) ..... Delaware
Harriet Alice Lakin, B.Sc. in Soc. Adm. ..... Columbus
Eva Virginia Lamon, B.Sc. in Edu. ..... Columbus
Lillian Sarah Michaelis, B.Sc. in Edu. ..... Marietta
Charles Medaris Roudebush, B.A. (Ohio Wesleyan University) ..... Columbus
Alva Thompson, B.A. (Wabash College) ..... Ridgefarm, Ill.
Grace Towns, A.B. (Atlanta University) ..... Atlanta. Ga.
John Everett Wenrick, B.A. ..... Bradford
Ralph Gault Whisler, A.B. (Findlay College) ..... Columbus
(Twenty candidates)

MASTER OF SCIENCE

Delmer Leroy Cottle, A.B. (Marietta College) ..... Marietta
Elizabeth Eleanor Coyle, B.S. (The College of Wooster) ..... Galion
Russell Richey Innis, B.Sc. in Agr. ..... Pataskala
Paul Howard Johnson, B.S. in Edu. (Eastern Illinois State Teachers College) ..... Columbus
Emerson Edward Kimberly, B.E.E. ..... Columbus
Paul Jackson Kramer, A.B. (Miami University) ..... Oxford
Birely J. Landis, B.S. in Edu. (Miami University) ..... Greenville
Ora Neal Liming, B.S. (Wilmington College) ..... Bethel
Horatio Clyde Mason, B.Sc. in Agr. ..... Coal Run
Claude Gordon Schmitt, B.S. (University of the City of Toledo) ..... Toledo
George Boyd Sleesman, B.S. in Edu. (Ohio Northern University) ..... Ada
(Eleven candidates)

CANDIDATES FOR TWO DEGREES

Howard G. Duhamel ..... Delaware
Bachelor of Arts
Bachelor of Electrical Engineering

Morris Lerner ..... Columbus
Bachelor of Arts (with Honors)
Bachelor of Science in Education
(Two candidates)

COLLEGE OF AGRICULTURE

Dean: ALFRED VIVIAN

BACHELOR OF SCIENCE IN AGRICULTURE

Charles John Bangham ..... Wilmington
Herbert Allen Carey ..... Hillsboro
George William Eikenberry ..... Eaton

Lester Wayne Garver.....Sullivan
Reuben William Hachtel.....Dundee
Ellis DeForest Hoag.....Rocky River
George Nicholas Holmes.....Dell Roy
Thomas Barton Kyle.....Tippecanoe City
Ross Arthur Milner.....Swift
Joseph Henry Schaad.....Waterford
Laurance Oliver Stafford.....Poland
Harry William Sutton.....Chagrin Falls
Albert Richard Wallace.....Wickliffe
Harold Dumont Wilber.....Chagrin Falls
Robert Ryerson Woodruff.....Havana
Lester Brandon York.....Versailles

(Sixteen candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Bernice Bertam Cecil.....Columbus
Laura Mehetabel Darrah.....Macksburg
Helen Estelle Nichols.....Pataskala

(Three candidates)

COLLEGE OF LIBERAL ARTS

Acting Dean: MARBURY BLADEN OGLE

BACHELOR OF ARTS

Samuel Sanford Aidlin.....Cleveland
Dudley Edward Binyon.....East Cleveland
Fred Brown (with high distinction in Psychology).....Youngstown
Maxine Harriet Cohen.....Columbus
James Stewart Collins.....Columbus
Irwin Clyde Colman.....Columbus
Clifford Edward Diehl.....Columbus
James King Dodge.....Delta
*Howard G. Duhamel.....Delaware
Margaret Emrich.....Tyranza, Ark.
Harriet Edith Farrar.....London
Robert Howard Fox.....Dayton
Elizabeth Ann Harrison.....Caledonia
Joseph Wolfrey Hill.....Dayton
Mary Helen Kenyon.....Wheeling, W. Va.
Joseph William Kohn.....Cleveland
Miles Charles Kumnick.....Montpelier
*Morris Lerner (with honors).....Columbus
George Lester McBride.....Zanesville
Clarence Michael McGoff.....Wapakoneta
Paul Barker Petticord.....Columbus
Elizabeth Ruth Ralph.....Cleveland
Lois Gertrude Reif.....Columbus
Lovell Wilson Rohr.....Columbus
William Jasper Seifert.....Bremen
Leon Meyer Shulman.....Steubenville
Lucile King Sternberg.....Columbus
Louis Tobin.....East Liverpool
Robert Hugh Williams.....Columbus
Judith Wu.....Peking, China
Marjorie North Yerges.....Columbus

(Thirty-one candidates)

* Two degrees.

College of Commerce and Administration

Acting Dean: Walter C. Weidler

Bachelor of Science in Business Administration

Stanford George Ackley	Prospect
Milford Carle Bacon	Gilboa
Nelson Slusser Bailey	Toledo
Ralph Vincent Benedict	Columbus
Lewis Sharps Bixler, Jr.	Kenton
Stuart Vincent Cummins	Isle of St. George
Adolph Grossman	Cleveland
Richard Edward Johnson	Sandusky
Donald Malcolm Jones	West Unity
Norman Karl Jones	London
Walter Marion Lewis	Mansfield
Allen Edward McDowell	Columbus
Edwin Wallace Miller	Lorain
Mabel Augusta Philson	Racine
Joseph Daniel Pohlman	Galion
Leland Charles Roth	Archbold
John Jay Rowles	Columbus
Frank Earl Sebring	Delaware
William Monroe Stahl	Ashland
Charles Willard Wertz	Portsmouth
Owen William Wiswell	Columbus

(Twenty-one candidates)

Bachelor of Science in Journalism

Helen Brown Bayha	Columbus
William Henry Boyenton, Jr.	Columbus
Archie Herbert Knapp	Wheeling, W. Va.
Henrietta MacFarland	St. Clairsville
Philip Edwin Riman	Toledo
Elizabeth Lillian Southard	Columbus

(Six candidates)

College of Education

Dean: George Frederick Arps

Bachelor of Science in Education

Alberta Ethel Banner	Columbus
Marian Fern Butler	Chillicothe
Raymond Olrie Clark	Columbus
Dorothy Elizabeth Cotner	Columbus
Viola Penrose Dougan	Pennsville
Otter Jesse Hill	Ashley
Mary Philippa Jefferys	Hanging Rock
*Morris Lerner	Columbus
Edna Arthine McCollam	Uhrichsville
Mary Dorothy McLeod	Cleveland
Olive Ogolda Reid	New Paris
Mary Melissa Rownd	Columbus
Kathryn Ann Sinclair, B.A.	Lorain
Lien Chung Wen	Nankin, China
Charlotte Widdig	Columbus
Frank Joseph Wiess	Cleveland

(Sixteen candidates)

* Two degrees.

College of Engineering

Dean: Embury A. Hitchcock

Bachelor of Architecture

Jerald Torrens Beem ..... Pataskala

(One candidate)

Bachelor of Architectural Engineering

Robert LeFevre Byers, A.B. (Bluffton College) ..... Bluffton
Ralph Fred Gallogly ..... Columbus
Paul Conn Metcalf ..... Toronto
LeRoy Sylvester Stanley ..... Beloit
John Wilson Story ..... Springfield

(Five candidates)

Bachelor of Chemical Engineering

Julius Lewis Hoelscher ..... New Knoxville

(One candidate)

Bachelor of Civil Engineering

Tanner McCoy Andrews ..... Zanesville
Ora Norris Essex ..... Carey
Michael Celestine Grogan ..... Columbus
John Murray McCaleb ..... Columbus
Charles Paul Smith ..... Warren
Theodore James Swain ..... Columbus
Harold Wagner ..... Columbus

(Seven candidates)

Bachelor of Electrical Engineering

Walter Wayne Cain ..... Columbus
*Howard G. Duhamel ..... Delaware
John Watt Miller (as of class of 1926) ..... Salem
William Douglas Watters ..... Toledo

(Four candidates)

Bachelor of Engineering Physics

Robert Howard Bigler ..... Orrville

(One candidate)

Bachelor of Engineering in Mining

Clifford Stanley LeVake ..... Alliance

* Two degrees.

(One candidate)

SPRING QUARTER, 1929

Graduate School

Dean: William McPherson

Doctor of Philosophy

Emory Frederick Almy, B.Sc., M.Sc. (University of Nebraska) ..... Columbus
Earl Elmer Barnes, B.Sc. in Agr., M.Sc. ..... Columbus
Raymond Walter Bixler, A.B. (Mt. Union College); A.M. (Columbia University) ..... Columbus
Crayton Knox Black, B.A., M.Sc. ..... Columbus
Helen Jean Brown, B.A., M.A. ..... Columbus

Arthur Richard Choppin, B.A., M.S. (Louisiana State University) ..... Baton Rouge, La.
Randolph Chandler Downes, B.S. (Dartmouth College) ; M.A. (University of Wisconsin) ..... Columbus
Bert Emsley, B.A. (Harvard University) ..... Columbus
John Daulton Guthrie, B.Sc. in Agr. ..... Columbus
Tom Burns Haber, A.B., B.Sc. in Edu. (Ohio Northern University) ; M.A. ..... Greenville
Robert Arthur Hefner, B.S. (Ohio Northern University) ; M.Sc. ..... Lafayette
Charles Richard Horwedel, B.Sc. in Chem. Eng. (University of Dayton) ; M.S. in Met. Eng. (University of Alabama) ..... Cleveland
Berthe Couch Koch, B.A., M.A. ..... Columbus
George Shealy Langford, B.S. (Clemson Agricultural College) ; M.S. (University of Maryland) ..... Fort Collins, Colo.
Gertrude Lawrence, B.A., M.A. ..... Columbus
Raoul Louis Menville, B.S., M.S. (Louisiana State University) ..... Baton Rouge, La.
Lyle Jordan Michael, B.S. (Otterbein College) ; M.Sc. ..... Bryan
Melvin Gillison Rigg, B.A. (Baker University) ; M.A., Ph.D. (University of Pennsylvania) ..... Gambier
Frederick J. Salter, B.Sc. in Agr., M.Sc. ..... Westerville
William Phillips Sandford, A.B., A.M. (University of Michigan) ..... Columbus
Harold Ellis Simpson, B. Cer. E., M.Sc. ..... Columbus
Jay Peterson Sleesman, A.B. (Ohio Northern University) ; M.A. ..... Ada
Floyd Franklin Smith, B.Sc. in Agr., M.Sc. ..... Brunswick
Willard Lee Valentine, B.A., M.A. (Ohio Wesleyan University) ..... Columbus
Alden Raymond Winter, A.B. (West Virginia University) ; M.Sc. ..... Columbus

(Twenty-five candidates)

Master of Arts

John Paul Albert, A.B. (Miami University) ..... Oxford
Elsie Pauline Allwardt, B.Sc. in Edu. ..... Hamilton
Harold Paul Alspaugh, B.Sc. in Bus. Adm. ..... Amanda
Paul Heil Althoen, A.B. (Capital University) ..... Columbus
Dorothy Woodward Angevine, A.B. (Denison University) ..... Pataskala
Ruth Santley Bacon, B.A. ..... Columbus
Elinor Julia Barnes, B.Sc. in Edu. ..... Columbus
Harold Albert Basilius, B.D. (Concordia Theological Seminary) ..... Toledo
Marguerite Weinlein Bentz, B.A. ..... Columbus
Marion Waterman Boesel, B.A. ..... New Bremen
Janet Catherine Bower, B.Sc. in Edu. ..... Columbus
Howard George Brunsman, B.Sc. in Bus. Adm. ..... Dayton
*Paul Francis Burke, LL. B. ..... Youngstown
George Carr Camp, B.A. (Ohio Wesleyan University) ..... Delaware
Erma Coffman, B.A. (College of Puget Sound) ..... Tacoma, Wash.
W. Don Collom, A.B. (De Pauw University) ..... Butlerville, Ind.
Herman Abner Copeland, A.B. (Ohio University) ..... Wapakoneta
Rhoslyn Lloyd Davies, B.S. in Edu. (Ohio University) ..... Columbus
Thelma Audrey Dunn, A.B. (Wittenberg College) ..... Springfield
William Floyd Faust, B.A. ..... Columbus
Francis Helen French, B.A., B.Sc. in Edu. ..... Columbus
Kathryn Marjory Fritz, A.B. (Wittenberg College) ..... Covington
George Nelvin Garrison, B.S. (Denison University) ..... Walhonding
Clifford Eugene Garwick, B.A. ..... Columbus
Mary Christine Gatewood, B.A. ..... McConnelsville
Glen Orren Gillette, A.B. (Ohio University) ..... Athens
Joy Turner Graham, B.A. ..... Columbus
Grant Ostander Graves, B.A. ..... Columbus
Jefferson Eugene Grigsby, A.B. (Biddle University) ; B. S. in Edu. ..... Columbus
Williard W. Groby, A.B. (Heidelberg College) ..... Dayton
Bernett Vina Harris, B.Sc. in Edu. ..... Columbus
Edwin Ruthvan Henry, B.S. in Edu. (Kansas State Teachers College) ..... Dodge City, Kan.
Elizabeth May Heskett, A.B. (Oberlin College) ..... Toledo
Henry Janzen, A.B. (Bluffton College) ..... Rosthern, Sask., Can.
Charles William Johnson, B.Sc. (University of Cincinnati) ..... Norwood

Frances Goldrick Johnson, B.A. ..... Columbus
Grace Ingersoll Johnson, B.Sc. in Edu. ..... Columbus
Mayme Virginia Johnston, A.B. (Ohio University) ..... Athens
Elizabeth Mary Jones, Ph. B. (Denison University) ..... Newark
Frances Faustine Jones, A.B. (Wittenberg College) ..... Sabina
Bertha Esther Josephson, B.Sc. in Edu. ..... Columbus
Herman Frederick Kauber, A.B. (Capital University) ..... Columbus
Cary Victor Kendall, B.Sc. in Agr. ..... Columbus
Kathryn Elinor Kramer, A.B. (Miami University) ..... Oxford
James Tamplin Laing, A.B. (West Virginia University) ..... Huntington, W. Va.
Clara Louise Leum, B.A. (University of North Dakota) ..... Mayville, N. D.
James Stewart Levering, A.B. (Miami University) ..... Columbus
Mary Hester Lloyd, A.B. (De Pauw University) ..... New Albany, Ind.
Val Rogin Lorwin, A.B. (Cornell University) ..... New York, N. Y.
Otto Arnold Lovett, A.B. (Wittenberg College) ..... De Graff
William Harris McClure, A.B. (University of Michigan) ..... Saginaw, Mich.
Hazel Reed McCoy, A.B. (Ohio University) ..... Uhrichsville
Cornelia Marshall, A.B. (West Virginia University) ..... Williamsburg, W. Va.
William Oliver Martin, A.B. (Wittenberg College) ..... Columbus
David Warren Maurer, B.A. ..... New Philadelphia
Howard Emmanuel Menke, A.B. (Otterbein College) ..... Westerville
Mary Lucille Mercer, A.B. (Ohio University) ..... Adena
Robert Hamilton Mitchell, B.A. (Muskingum College) ..... St. Clairsville
Richard Morgan, B.A. ..... Middletown
Thirl Ernest Newland, A.B. (Wittenberg College) ..... Springfield
Corliss Lloyd Parry, B.A. ..... Jackson
Ruth Elizabeth Penney, B.A. ..... Columbus
Martha Caroline Peters, B.A. ..... Delphos
Henrietta Lucille Pulskamp, B.S. (Miami University) ..... Celina
Fabio Posadas Quezada, B.Sc. in Edu. ..... Columbus
Frank Austin Redmond, A.B. (Rio Grande College) ..... Columbus
Lydia Morrow Reeder, B.A. ..... Columbus
Dwight Earl Roller, B.Sc. in Bus. Adm. ..... Columbus
William Horace Rose, LL.B. ..... Columbus
Roscoe Frederick Schaupp, A.B. (University of Nebraska) ..... Los Angeles, Calif.
Ernest Otto Schillhahn, B.A. ..... Springfield
Caroline Julia Seymour, B.A. (Western Reserve College for Women) ..... Canton
Orrville Ernest Sink, B.S. in Edu. (Indiana State Normal College) ..... Muncie, Ind.
James Kinley Skipper, B.A. ..... Steubenville
Hazel Shook Snyder, B.Sc. in Edu. ..... Columbus
Dorothy Kress Spengler, B.Sc. in Jour. ..... Columbus
Joseph John Spengler, B.A. ..... Columbus
George Franklin Strickling, B.A. (University of North Dakota) ..... Ashland
Mark Earl Studebaker, A.B. (Manchester College); B.S. in Econ. (University of Pittsburgh) ..... Muncie, Ind.
Audrey Clothilde Sweet, B.A. ..... Columbus
Verna Esther Swisher, A.B. (Earlham College) ..... Columbus
Caroline H. Tyler, B.Sc. in Edu. ..... Columbus
Robert Franklin Wallace, B.A. ..... Cleveland
Ralph Harry Waltz, B.Sc. in Bus. Adm. ..... Columbus
Nelle Slye Warner, A.B. (Ohio University) ..... Athens
Francis Woody Werking, B.A. ..... Columbus
Dorothy Jean Whitted, A.B. (Simpson College) ..... Ada
Anna Catherine Williams, B.S. (Miami University) ..... Sharonville
George Washington Wilson, A.B. (Marietta College) ..... Marietta
Henry Atkinson Wilson, B.Sc. in Agr. ..... Carson, Ark.
Loral Culbert Wilson, B.Sc. in Edu. ..... Columbus
Norma Dorothy Wood, B.A., B.Sc. in Edu. ..... Columbus
William Peter Yeager, B.Sc. in Bus. Adm. ..... Columbus
Fern A. Young, B.S. (Brigam Young University) ..... Wellington, Utah

(Ninety-four candidates)

MASTER OF SCIENCE

Chester Ronald Austin, B. Cer. E. ..... Bellefontaine
Clyde George Barnes, A.B. (Hiram College) ..... Macedonia
Mary Ann Brown, B.Sc. in H. E. ..... Hebron
Alden Hartzler Burkholder, A.B. (Manchester College) ..... Smithville
Harold Elijah Collins, B.Sc. in Agr. ..... Bowling Green
Elah Michael Deck, A.B. (Wittenberg College) ..... Leipsic
Charles Gross Duncombe, B. Ch. E. ..... Akron
Frank Lowell Durr, B.S. (Otterbein College) ..... Marion
Wilder De Ayre Foster, B.A. (Ohio Wesleyan University) ..... Toledo
Dwight Elder Gray, B.A. (Muskingum College) ..... Jamestown
Paul Whittington Handel, B.S. (Denison University) ..... Newark
Adrian Joseph Hartzler, B.S. (The College of Wooster) ..... Wooster
James Clay Hedge, B.Sc. in Agr. ..... Canfield
Lawrence Emerson Hicks, B.S. (Otterbein College) ..... Fredericktown
Harry Heltman Holscher, B.S. (University of Illinois) ..... Marshall, Ill.
Howser Cutler Hunt, B. C. E. ..... Richwood
Daniel Joseph Kindel, B.S., M.D. (University of Cincinnati) ..... Fairmont, W. Va.
Robert Chester Kintner, B.Ch.E. ..... Columbus
Joseph Howard Koffolt, B.Ch.E. ..... Cleveland
Ruth Madeline Kraft, B.S. (Michigan State College of Agriculture and Applied Science) ..... Columbus
Barbara Elizabeth Metz, B.Sc. in Edu. ..... Tiffin
Everett Theodore Miller, A.B. (Miami University) ..... Verona
Steward George Morris, B.A. ..... Cambridge
Herbert Dellmont Owens, B.E.E. ..... West Alexandria
Robert Melville Pearce, B.S. (Geneva College) ..... Beaver Falls, Pa.
Carl Daniel Roess, B.S. (Capital University) ..... Columbus
Alfred Allen Roetken, B.E.E. ..... Covington, Ky.
Jack Douglas Ryder, B.E.E. ..... Columbus
Barbara Yocum Say, B.S. (The College of Wooster) ..... Canandaigua, N. Y.
Iman Schurman, A.B. (Hope College) ..... Holland, Mich.
Thomas Scott Sutton, B.Sc. in Agr. ..... Hammondsville
Bernice Grace Tracy, B.A. ..... Millbury
William Frederick Underwood, B.Ch.E. ..... Mt. Victory

(Thirty-three candidates)

CANDIDATES FOR TWO DEGREES

Earl Frank Bailey ..... Columbus
Bachelor of Arts
Bachelor of Science in Business Administration

Charles Merrill Barber ..... Toledo
Bachelor of Architecture
Bachelor of Architectural Engineering

James Bruce Blanchard ..... Columbus
Bachelor of Arts
Bachelor of Laws

Paul Francis Burke, LL.B. ..... Youngstown
Master of Arts
Bachelor of Arts

Lois Eleanor Cottrell ..... Columbus
Bachelor of Arts
Bachelor of Science in Social Administration

Ferdinand Elsass ..... Columbus
Bachelor of Arts (with Honors)
Bachelor of Science in Education

Helen Ruth Etter ..... Covington
Bachelor of Arts (with Honors)
Bachelor of Science in Education

Virginia Hockett ..... Worthington
Bachelor of Arts (with Honors)
Bachelor of Science in Education

Richard Huggard ..... Columbus
Bachelor of Arts
Bachelor of Laws
Hester Lenora Kiler ..... Columbus
Bachelor of Arts
Bachelor of Science in Journalism
Margaret Lovisa Laycock ..... Toledo
Bachelor of Arts
Bachelor of Science in Education
Mary Emily Postle ..... Columbus
Bachelor of Arts
Bachelor of Science in Education
Arthur Rubin ..... Columbus
Bachelor of Arts
Bachelor of Laws
Lillian Esther Salle ..... Ironton
Bachelor of Arts
Bachelor of Science in Education
Marian Rose Schwarzell ..... Chillicothe
Bachelor of Arts
Bachelor of Science in Social Administration
Charles Madison Short, Jr. ..... Columbus
Bachelor of Arts
Bachelor of Engineering Physics
Gerald Burrell Snedecker ..... Columbus
Bachelor of Arts (with Honors)
Bachelor of Science in Education
Howard Eugene Waugh ..... Columbus
Bachelor of Arts
Bachelor of Ceramic Engineering
Marie Emma Zettler ..... Columbus
Bachelor of Arts
Bachelor of Science in Education
Aaron Simon Canowitz ..... Columbus
Bachelor of Science
Doctor of Medicine
Samuel Climo ..... Cleveland
Bachelor of Science
Doctor of Medicine
Allen Reuben Eyestone ..... Carey
Bachelor of Science
Doctor of Medicine
Samuel Goldstein ..... Columbus
Bachelor of Science
Doctor of Medicine
Glen Henry Heller ..... Cleveland
Bachelor of Science
Doctor of Medicine
Wilford Clare Lacock ..... Granville
Bachelor of Arts
Doctor of Medicine

(Twenty-five candidates)

College of Agriculture

Dean: Alfred Vivian

Bachelor of Science in Agriculture

Howard Woodruff Andrus ..... Jefferson
Estelle Ray Bailey ..... Malta
Lyman Forrest Baker ..... Adrian

Harold Albert Baumann	Amherst
Joseph Donnally Blickle	Ironton
Jay Leon Boyer	Belmore
Everett Russel Brelsford	New Lebanon
James Humphreys Bywaters	Ashland, Ky.
George Nash Converse	Mantua
Marion J. Cook	Upper Sandusky
Lester Alfonso Cronin	Woodsfield
Cloyce Vernon Donnel	Antwerp
Harold Marden Drake	Montpelier
Maurice Pierce Durkee	Grafton
Charles William Eberhard	Rushsylvania
James Howard Fettro	Hillsboro
Jonathan Taylor Frost	Dresden
Leslie Simeon Hartzell	North Benton
George Edwin Henderson	Kenton
Sidney Hilty	Pandora
Lawrence Lee Holliday	Thurston
Lawrence Frank Hosbrook	Blue Ash
Robert Charles Isaly	Columbus
Lynden Charles Jones	Wellington
Irvin Robert Krill	Edgerton
Lloyd Kurtz	Bucyrus
Raymond Jewell Law	Delaware
William Robert Lewis	Wilmington
Clarence Albert Miller	Shelby
Charles Dorsey Minner	Sonora
George Joseph Mitiska	Cleveland
Eldon Saviers Parkinson	Pataskala
George Hubert Pulliam	Winkle
Ralph Parlette Reece	Galion
Hanson Basquin Rhodes	Montville
Robert Moore Richards	Chilo
Harry Rider	Cleveland
John Daniel Rinehart	Brookville
Elwood Pratt Schmink	Columbus
Ralph Leslie Schwartz	Stanleyville
John Cornelius Snyder	Fairbury, Neb.
Carter Paul Straw	Eaton
Ward Lemert Studor	Adamsville
Ralph Waldo Sweitzer	Louisville
Arthur Henry Walker	Zanesville
James Hubert Warner	Woodstock
Oliver John Yoder	Lancaster
Robert Alexander Young	Bremen
Elmer Alois Yutzi	Cincinnati

(Forty-nine candidates)

Bachelor of Science in Home Economics

Dorothy Amelia Arnold	Columbus
Olga Julia Balz	Columbus
Charlotte Alice Bird	Fayette
Wilma Alvildia Bonar	Newark
Edyth Irene Cupp	Columbus Grove
Mary Huston Daugherty	Columbus
Marie Josephine Dempsey	Columbus
Mary Margaret Devore	Reynoldsburg
Lovina Jane Diley	Canal Winchester
Martha Dush	Newark
Frances Eleanor Eaton	Indiana, Pa.
Mabel Ephrath	Dayton
Irma May Fisher	Wilmington

Vada Elmyra Fisher.....Wilmington
Ethel Louise Folden.....Black Lick
Mary Elizabeth Fowble.....Brookville
Florence Irene Galehouse.....Marshallville
Ruth Loretta Godfrey.....Columbus
Alice Smith Hill.....Reinersville
Florence Hughes.....Columbus
Mary Alice Hunter.....Hamilton
Doris Woodruff Jerles.....Nelsonville
Mildred Irene Kalb.....Tiro
Alice Adelaide Knox.....London
Leora June LaSalle.....Delta
Margaret Buchanan McCall.....Columbus
Alice Rita McDermott.....Stockport
Katharine McGraw.....Charleston, W. Va.
Elizabeth Marie Malone.....Toledo
Gladys Louise Mason.....Wellington
Helen Elizabeth Nixon.....Columbus
Mary Bonaventure Parker.....Columbus
Ava Corinne Pettit.....Tiro
Mabel Claire Pratt.....Cove
Kathleen Queenan.....Dayton
Bertha Lillian Rericha.....Cleveland
Dolly May Spangler.....Lancaster
Helen Dickinson Staker.....McConnelsville
Iva Maud Stebbins.....Dayton
Gertrude Crawford Taylor.....Elyria
Rebecca Irene Terrill.....Ridgeway
Grace Marie Tresch.....Fleming
Beatrice Almeda Turner.....Columbus
Susie Alverta Weller.....Republic
Mabel Gertrude Westervelt.....Columbus
Emily Ada Worcester.....Oberlin

(Forty-six candidates)

College of Liberal Arts

Dean: Walter James Shepard

Bachelor of Arts

Philip Rhys Adams.....Springfield
Hugo Alexander.....Steubenville
Edward Morgan Alkire.....Columbus
Ned Wilber Andrix.....Columbus
Ann Armstrong.....Columbus
Ruth Josephine Asire.....Westerville
*Earl Frank Bailey.....Columbus
Thelma Theon Baird.....Pataskala
Mary Ellen Baker.....Columbus
Randall Todd Baldwin.....Youngstown
Olen Dighton Ball.....Caldwell
Melvin Garfield Barclay.....Columbus
Eunice Louise Barringer.....Flint, Mich.
William Morton Barrows, Jr. (with Honors).....Columbus
Helen Adelaide Barto.....Plain City
John William Baymiller.....Toledo
William Cristen Berthold.....Chillicothe
Lucile Kirkwood Bishop.....Columbus
*James Bruce Blanchard.....Columbus
Michael Bogomolny.....Cleveland
Kathryn Bowler.....Columbus

* Two degrees.

Etta Pearl Bretnall (with Honors) ..... Millburn, N. J.
William Moore Brown ..... Bethesda
Anne Bryan ..... Columbus
*Paul Francis Burke, LL.B. ..... Youngstown
Florence Cole Bush ..... Lakewood
Elizabeth Millar Byers ..... Columbus
Frances Moore Caddy ..... Mineral City
William Warrick Cardozo ..... Cleveland
Rebecca Jean Cassidy ..... Toronto
Ben Chapsky ..... Cleveland
George Fogas Clayton ..... Indianapolis, Ind.
Charles Edward Clisby ..... Kinsman
Jacob Cohen ..... Steubenville
Emanuel Manning Cohn ..... Cleveland
Arthur Charles Cole, Jr. ..... Columbus
John Andrew Coleman ..... Greenville
George Frederick Collins ..... New Philadelphia
*Lois Eleanor Cottrell ..... Columbus
James Chester Cramond ..... Columbus
Ramona Crivel ..... Lakewood
Alfred Robins Cukerbaum ..... Youngstown
Jean Cunningham (with Honors) ..... Dayton
Dorothy Elizabeth Davis ..... Dayton
Anna Elizabeth DeBruin ..... Columbus
Herbert Allen Dilley ..... Duncan Falls
Joseph Alan Dorff ..... Shadyside
Howard Clyde Dovel ..... Columbus
Lucile Maria Dum ..... Columbus
Donald William Dunipace ..... Bowling Green
Dale Raymond Eberhart ..... Ashland
Polly Isabelle Edelen ..... Parkersburg, W. Va.
Alfreda Frances Edelson ..... Ironton
Charles Flavius Edwards ..... Greenfield
Fred Ernest Elliot ..... Cleveland
*Ferdinand Elsass (with Honors) ..... Columbus
Paul McConnell Espy ..... Fresno, Calif.
*Helen Ruth Etter (with Honors) ..... Covington
Jack Kenneth Evans ..... Columbus
Robert Everhart ..... Dundee
Ralph Finkelstein ..... East Cleveland
William Henry Flach, Jr. ..... Piqua
Robert Kriegbaum Fox ..... Columbus
Mary Eleanor French ..... Columbus
Harold James Friedman ..... East Cleveland
Joseph Lewis Friedman ..... Cleveland
John Charles Furgason, Jr. ..... New Lexington
Edward Long Garrett ..... Zanesville
Richard Ludwig Garster ..... West Carrollton
Agnes Louise Gease ..... Columbus
Abraham Gertner (with Honors) (with High Distinction in Political Science) ..... Columbus
Lucile Lovejoy Gilman ..... Columbus
George Melville Glassco ..... Warren
Sidney Eugene Goad ..... Clendenin, W. Va.
Rosalyn Silverman Gold ..... Clyde
Milton Mitchel Gottlieb ..... Midland, Pa.
Delmas Edward Greeneltch ..... Columbus
Ralph Dammann Griebling ..... Lakewood
Clyde William Hall ..... Youngstown
William Sam Hamill ..... Columbus
Alvin Merle Hamilton ..... Marion
Benjamin Raymond Hanson ..... Mountain Iron, Minn.
John Theodore Haswell ..... Circleville

* Two degrees.

Fred Cartmell Hauck.....Columbus
Anna Luella Heaton.....Columbus
Eula Amanda Heffelfinger.....Big Prairie
Erwin Richard Hexter, Jr.....Cleveland
Charles Spencer Hire.....Greenfield
Evelyn Maybelle Hobstetter.....Columbus
*Virginia Hockett (with Honors).....Worthington
Richard Yings Hollington.....Findlay
Martha Mitchell Howard.....Zanesville
Louise Dale Hudson.....Columbus
Frances Elinor Huggard.....Columbus
*Richard Huggard.....Columbus
Don Dougan Humphrey (with Distinction in Economics).....Columbus
Margaret Hunt.....Wooster
Donald Frizell Hyde (with Honors).....Chillicothe
Virginia Willard Irish.....Ironton
Martha Jaffe.....Sidney
Henry Bachman Jammer.....Cumberland, Md.
Corinne Vivian Johnson (with Honors).....Columbus
Louise Johnson.....Columbus
John Roy Johnston.....Norwood
Harriette Cordelia Jones.....Ravenna
Helen Jane Jones.....Columbus
Marian Virginia Jones.....London
Margaret Abigail Judd (with Honors).....Columbus
Calvin Edward Kielsmeier.....Cleveland
*Hester Lenora Kiler.....Columbus
Horace Francis King.....Springfield
Audrey Knowlton.....Columbus
Wendell Reuben Koch (with Distinction in Physics).....Dayton
Stanley Bertrand Koerner.....Cleveland
Miriam Sara Kruckman.....Toledo
*Wilford Clare Lacock.....Granville
Elizabeth Wade Landacre.....Columbus
Eileen Augusta Lange (with Honors).....Erie, Pa.
Helen Virginia Lasher (with Honors).....Rutland
Minnie Zenobia Latimer.....Columbus
Mildred Norine Lawyer.....Columbus
*Margaret Lovisa Laycock.....Toledo
Gerold Frank Lefkowitz.....Cleveland
Willard Marvin Levin.....Columbus
Louis Levine (with Honors) (with Distinction in Economics).....Columbus
Roy Aaron Liming (with Honors).....Mt. Orab
Alfred Lewers Lindsay, Jr.....Columbus
Elizabeth Anne Linton (with Honors) (with Distinction in Economics).....Columbus
Cecil McCorkle.....Chillicothe
Margaret Frances McDonald.....Columbus
Mildred Meisner McDonald.....Columbus
Marian Valora Antoinette McIlhenny.....Dayton
Robert Ellison McKay.....Middleport
Mayo McKinster.....Logan, W. Va.
William Evans McMillan.....La Grange
Mildred Lucille McNaghten.....Lancaster
Brooks Whiley MacCracken (with Honors).....Lancaster
Albert Wayne Meanor.....Cambridge
Catherine Adrienne Meck.....Cleveland
Myron Charles Metcalf.....Kingston
Mabel Metcalfe.....Greenville
Joseph Harry Miller.....Columbus
Elizabeth Barbara Mohr.....Columbus
Catherine Pauline Morgan.....Columbus
Casimir Joseph Munter (with Honors).....Canton

* Two degrees.

Herbert Eugene Muntz.....Columbus
Harrison Gus Muntzing.....Maysville, W. Va.
Arthur Ferdinand Nelson.....Ashtabula
Joseph Sylvester Nemec.....Cleveland
Grace Elizabeth Nicola.....Worthington
Marjorie Dee Nicola.....Worthington
Ellen Randolph North (with Honors).....Columbus
Mina Nupuf.....Columbus
Margaret Mary O'Shaugnessy.....Columbus
Edith Palmer.....Van Wert
Maynard Lee Parker.....Edon
Frank Geary Parris.....Clendenin, W. Va.
Sam Joseph Pastorella.....Cleveland
Jacob Harrison Patricoff.....Dayton
Margaret Rita Pendergast.....Lakewood
Waino Harold Pesola.....Mountain Iron, Minn.
Russell Douglas Peterkin.....Virginia, Minn.
Dorothy Lucille Pierce.....Galena
Milton Frederick Popp.....Fort Wayne, Ind.
*Mary Emily Postle.....Columbus
George Marcus Price.....Columbus
Mary Alice Price.....Buena Vista, Va.
Alice Marion Prout.....Columbus
Emily Antoinette Prucha.....Cleveland
Ruth Mabel Rarick.....Columbus
Ralph Raymond.....Columbus
John William Reiche.....Ravenna
Howard Joseph Reid.....Sanford, Me.
Robert August Riehl.....Columbus
John Beatty Rieker.....Kent
Robert Charles Von Riggle.....Worthington
Elizabeth Oglevie Rimer.....Vaughnsville
Frank William Ripich.....Cleveland
*Arthur Rubin.....Columbus
Harvey Ditman Rush (with Honors).....Greenville
Maurice Rusoff.....Columbus
*Lillian Esther Salle.....Ironton
Philip Anthony Schneider, Jr.....Columbus
Alfred Norman Schuller.....Cleveland
*Marian Rose Schwarzell.....Chillicothe
Helen Irene Sentivany.....Zanesville
Charles Eldon Shanely.....Columbus
Abe Obby Shapiro.....Cleveland
William Thomas Sharp.....Nelsonville
Martha Winstead Shawaker.....Columbus
Thomas Albert Sheehan.....Cleveland
Maurice Vernon Sheets.....Columbus
Martha Adams Sheldon.....Columbus
*Charles Madison Short, Jr.....Columbus
Alex Sigal.....Midland, Pa.
Ruth Ann Silbaugh.....Ashville
William Hervey Sill.....Barnesville
Geneva Jane Smith.....New Vienna
Stanley Samuel Smith.....Columbus
Naomi B. Smithman.....West Milton
*Gerald Burrell Snedeker (with Honors).....Columbus
Margaret Elizabeth Spindler (with Honors).....Dayton
Emerson Thorne Squire (with Honors) (with High Distinction in Romance Languages).....Ashville
Mary Louise Stalker.....Cisco, Tex.
Vernon Lemar Stouffer.....Columbus
Alfred Evan Stout.....Dayton
Thomas William Strohm.....Coshocton

* Two degrees.

Esther Marguerta Stubbs.....Columbus
Cyril Thomas Surina.....Cleveland
Dorothy Eugenia Thibaut.....Marion
Dorothy Marie Thomas.....Toledo
†Eleanor Catherine Thomas.....Columbus
Edwin McKay Tuttle.....Sandusky
Catherine Danford Ulrich.....Chicago, Ill.
Adolph William Verhoff.....Columbus
Jean Stirling Wallace.....Martins Ferry
Pearl Cecil Walrath.....Cleveland
Francis Xavier Wangler.....Groveport
*Howard Eugene Waugh.....Columbus
Margaret Frances Weinland.....Columbus
Ruth Elizabeth Weinman.....Columbus
Henry Weissenbach.....Columbus
Edward Stemple Wells.....Wellington
Jerome Irving Wertheimer.....Cleveland
Julian Kearns Williams.....Columbus
Ralph Miller Williams.....Shelby
Joseph Morrison Williamson.....Columbus
Helen Fanny Wolf.....Columbus
Dorothy Joan Zarembski.....Toledo
Selma Ruth Zeiger.....Columbus
*Marie Emma Zettler.....Columbus
LaVerne Campbell Ziegler.....Mars, Pa.
Louis Courtney Ziskind.....Columbus

(Two hundred and thirty-three candidates)

BACHELOR OF SCIENCE

Robert Eugene Brawley.....Greenville
Alice Martina Bustin.....Cleveland
*Aaron Simon Canowitz.....Columbus
*Samuel Climo.....Cleveland
*Allen Reuben Eyestone.....Carey
*Samuel Goldstein.....Columbus
John David Hathaway.....Mechanicsburg
*Glen Henry Heller.....Cleveland
Henry William Karrer.....Dublin
Edward Kuchlewski.....Cleveland
Carlos Melvin Larrick.....Pleasant City
Harold Levi Lawrence.....Lancaster
Frank Edwin Manbeck.....East Cleveland
Mervin Hur Mitchell.....Plain City
Dwight Miller Palmer (with Honors).....Scio
Flora Murphy Pedicord.....Zanesville
Robert Leslie Snipes.....Columbus
Peter Anthony Volpe.....Columbus

(Eighteen candidates)

COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean: WALTER C. WEIDLER

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

George Herman Alber.....Toledo
Henry Rudolph Artz.....Toledo
Virgil Ward Ashman.....New Philadelphia
*Earl Frank Bailey.....Columbus

* Two degrees.
† Died April 25, 1929.

Merle Vernon Baker	Columbus
Ralph Battin	Toledo
George Williard Beatty	Columbus
Alice Dorothy Bowen	Columbus
Charles Cunningham Boyd	Portsmouth
James Slade Brown	Batavia
Charles Huston Cadwallader	Toledo
Robert Nicholas Call	Mt. Sterling
Paul Donald Carr	Newton Falls
Van Louis Carr	Columbus
Robert Henry Charlton	Columbus
Isadore Bernard Cohen	Cleveland
Lincoln Thaddeus Cory	Coon Rapids, Ia.
James Kenneth Crawford	Lima
Robert John Crawford	Keene
George William Daverio	Canton
Wayne Holderman DeLong	Kingston
Edward Eugene Dohse	Dayton
Russell Elwood Dresher	Springfield
Elmer Eugene Eicher	Dayton
Charles Davis Higby Eisenhart	Columbus
Beryl Leonard Goldman	Toledo
John Homer Haas, Jr.	Lakewood
John Willis Harman	Creston
Alfred John Henney	Columbus
Robert Burdette Herrold	Mansfield
Raymond George Hiscox	Lisbon
Clarence Calvin Ittner	Millersburg
Charles Jenne, Jr.	Toledo
Allan Wineman Kahn	Indianapolis, Ind.
Frank George Kaufman	Cleveland
Roy Everett Kimmel	Brookville
Dorothy Esther Klotz	Chillicothe
William Julian Kukelcik	Cleveland
Mo Chun Li	Hunan, China
John Garvin Lowry	Columbus
John Wayne Lucas	Steubenville
Albert Lewis Ludwick	Lancaster
Luke Hudson Lyman	Columbus
Herbert Hale McClanahan	Columbus
Raymond Edward Marks	Lorain
Marshall Lisle Miller	Bedford
Alvin Robinson Mills	Toledo
Morton Jacob Neipp	Oak Harbor
Thomas Jerome Potts	Columbus
Beryl Mauriece Rainsberg	Dennison
Virginia Rowena Rardin	Columbus
Arthur Carl Rascher	Davenport, Ia.
Elba Edgar Ritchey	Metamora
Mary Catherine Ruff	Lancaster
Walter Albright Schmunk	Antwerp
Carlton William Schnell	Cleveland
Albert George Schwab	Columbus
Ralph Walter Sherman	Thornville
Cothard Holwill Shutt	Columbus
Pauline Davis Snodgrass	Barberton
Ralph Luther Snyder	Ada
Karl Calvin Sommer	Lakewood
Frederick Van Horn Staley	Columbus
Karl Wise Stein	Toledo
Wah Hoon Tam	Honolulu, Hawaii
John Christian Taylor	Newark
Max Ross Tenenbaum	Cleveland

Helen R. Toman ..... Gettysburg
Robert McCray Toney ..... College Corner
Daniel Edwin Tritten ..... Lisbon
Robert Alexander Turnbull, A.B. (Cedarville College) ..... Cedarville
Ralph Mitchell Van Metre ..... Sheridan, Ind.
Benjamin George Weiss ..... Cleveland
John H. Welch ..... Cleveland
Edwin Harrison Williams, Jr. ..... Lakewood
Fred Edson Wilson ..... Coshocton
Prentice Collard Woodhouse ..... Lakewood
Joseph Orian Young ..... Hamilton
Regina Marie Young ..... Columbus
Raymond Joseph Zettler ..... Columbus

(Eighty candidates)

Bachelor of Science in Journalism

Russell Fisher Bender ..... Rittman
Elsa Jane Carroll ..... Columbus
Ralph Marvin Cohen ..... Dayton
Molly Corne ..... Newark
Margaret Boyd Davis ..... Columbus
Corwyn Emmett Dray ..... Chillicothe
John Gibbons Fenton ..... Columbus
Edwin Vern Garman ..... Akron
Oeveste Santi Granducci ..... Cincinnati
Frederick Ralph Grapperhaus ..... Columbus
Earl Henry Hall ..... Columbus
John Clifford Heiskeil ..... Circleville
*Hester Lenora Kiler ..... Columbus
Helena Ruth McCrea ..... Dunkirk
Mary Eleanor Miles ..... Cleveland
Ruth Babette Rosenthaler ..... Cincinnati
Stanley Whitlatch Schellenger ..... Jackson
James Henry Schiff ..... Newark
Ruth Schwerin ..... Pittsburgh, Pa.
Arden Ralph Strang ..... Buckeye Lake
Edward Van Der Veer Taylor ..... Columbus
Herbert Wise ..... Lima
Plummer Bernhard Young, Jr. ..... Norfolk, Va.

(Twenty-three candidates)

Bachelor of Science in Social Administration

Georgia Weber Bower ..... Columbus
*Lois Eleanor Cottrell ..... Columbus
Helen Irene Deeter ..... Columbus
Helene Nell Gardner ..... Columbus
Suzanne Halperin ..... New Haven, Conn.
Eleanore Ruth Mack ..... Circleville
Minerva Eleanor Morris ..... Bellefontaine
Wilametta Esther Morris ..... Columbus
Elizabeth Xenia Pier ..... Columbus
Sue Belle Reemelin ..... Cincinnati
Fay Virginia Sands ..... Columbus
*Marian Rose Schwarzell ..... Chillicothe
Rose Sara Sugarman ..... Columbus
Rosemary Vopalecky ..... Lakewood

(Fourteen candidates)

* Two degrees.

College of Dentistry

Dean: Harry M. Semans

Doctor of Dental Surgery

Clarence Thomas Aumend ..... Warren
David Michael Bassett ..... Toledo
Morris Pipp Bauman ..... Cleveland
David Vilner Bender ..... Youngstown
Louis Berkowitz ..... Cleveland
Jack William Brede ..... Middletown
Jefferis George Cole ..... Greenville
Raymond Leland Cummins ..... Hamilton
Richard William Deeds ..... Lima
Arthur James Edwards ..... Youngstown
Asa Luther Edwards ..... Rinard Mills
Harold Damon Ersig ..... Toledo
Samuel Fisher ..... Steubenville
Paul Maurice Floyd ..... Philadelphia, Pa.
Warren Carl Garnhart ..... Columbus
William Bernard Gerber ..... Dayton
Harry James Greene ..... Cleveland
David Nelson Jones ..... Lakewood
Joseph John Karow ..... Cleveland
William Zachariah Kling ..... Newark
Elmer John Lambert ..... Chagrin Falls
James Paul Londergan ..... London
John Elmer McAdams ..... Columbus
Russel William McCarty ..... New Carlisle
Walter Edward Maple ..... Grafton
Leon William Meisel ..... Cleveland
Earl Rudolph Miller ..... Defiance
John Frederick Minnich ..... Frazeysburg
Nelson Henry Odell ..... Lakewood
Frank Fred Peterka, Jr. ..... Cleveland
Lyle Smith Pettit ..... McComb
Harvey Conner Prather ..... Columbus
Russell Duncan Puder ..... Cleveland
Charles Eugene Reelhorn ..... Pataskala
Lamonte Hale Retz ..... Columbus
Boyd Edwin Robinson ..... Youngstown
Meyer Rothman ..... New York, N. Y.
Roy Theodore Scheffler ..... Zanesville
Milton Schneider ..... Cleveland
Frederick William Schwab ..... Port Washington
Morris Jack Shall ..... Toledo
George Arthur Shuler ..... Akron
James Skramovsky ..... Elizabeth, N. J.
Hyman Joe Solomon ..... Cleveland
Donald Melbourne Spicer ..... Lima
William Henry Stallings ..... Akron
James William Strickler ..... Columbus
Harry Aaron Tenenbaum ..... Cleveland
Robert Edward Wade ..... Columbus
Douglas Lorine Warner ..... Hicksville
Max Weiner ..... Cleveland
Roy Frederick Wichterman ..... Ravenna
Charles Franklin Woods ..... Akron
Raymond Smith Young, B.S. (Muskingum College) ..... New Concord

(Fifty-four candidates)

College of Education

Dean: George Frederick Arps

Bachelor of Science in Education

Margaret Louise Adkins ..... Atlanta
Helen Jean Alexander ..... Sewickley, Pa.
Ruth Evelyn Arn ..... Columbus
Roselma Minnie Atkins ..... Geneva
Catherine Isabelle Baker ..... Columbus
Fairy Naomi Baker ..... Patterson
Mildred Mae Baker ..... Columbus
Louise Barber, B.A. ..... Columbus
Marian Elizabeth Barber, B.A. (The College of Wooster) ..... Bryan
Selma Hermein Baum ..... Toledo
Louise Blanche Beatley ..... Columbus
Leota Alice Bell ..... Kalamazoo, Mich.
Doris Bertha Bessey ..... Columbus
Loren Ellsworth Bibler ..... Findlay
Carolyn Louise Birnbaum ..... Madison
Norris Dwight Blackburn ..... Coal Run
Bernice Irene Bollenbacher ..... Bellevue
Virginia Ruth Bone ..... Columbus
Avalee Ruie Boner ..... Columbus
Catharine Elizabeth Bonner ..... Columbus
Martha Elizabeth Bowman ..... Columbus
Jean Zelda Brenner ..... Cleveland
Ralph Riddile Brown ..... Duncan Falls
Ruth Isabel Brown ..... Columbus
Lulu Pearle Browne ..... Columbus
Walter Junior Caldwell ..... Columbus
Albert F. Cameron ..... Carroll
Lois Adora Canfield ..... Pleasant City
Florence Iola Carey ..... Ashtabula Harbor
Rosa Lee Carter ..... Columbus
Robert Bruce Chandler ..... Plain City
Marjorie Claire Cochran ..... Lancaster
Kathryn Virginia Comstock ..... Columbus
Isaac Homer Conley ..... Rittman
Virginia Carolyn Cooley, B.A. ..... Galena
Gertrude Elizabeth Corey ..... Bucyrus
Jane A. Creager ..... Columbus
Lillian Rebecca Daniel ..... Canton
Mary Jeannette Davis ..... Columbus
Esther Dennis ..... Columbus
Rose Ethel Diamond ..... Cleveland Heights
Helen DiGregory ..... Steubenville
Marian Elizabeth Dillon ..... Columbus
Mary Dolores Doughty ..... Moxahala
Lowell Gibson Downing ..... Hollandsburg
Howard William Eck, B.A. ..... Van Wert
Evelyn Margaret Edam ..... Lakewood
*Ferdinand Elsass ..... Columbus
*Helen Ruth Etter ..... Covington
Dorothy Vern Evans ..... Covington
Carl Adolph Eversman ..... New Knoxville
Mary Louise Ewing ..... Lancaster
Rebecca Elizabeth Ewing ..... Findlay
Lois Ruth Fassig ..... Columbus
Marjorie Frances Fassig ..... Columbus
Florine Genevieve Fels ..... Swanton
Uarda Schlafke Fischer ..... Canton

* Two degrees.

Donald Worth Fites ..... Killbuck
Blanche Louise Flaig ..... New Madison
Winifred Flannery ..... Cleveland
Frances Virginia Fox ..... Columbus
Mary Virginia Freid ..... London
Mildred Lee Freidenberg ..... Columbus
Mary Scott Gale ..... Columbus
Pearl Elizabeth Garvin ..... Hamilton
Evelyn Muriel Gassman ..... Cleveland
Robert Morris Gatrell ..... Marietta
Justine Caroline Gehring ..... Elmore
Mary Lucille Geist ..... Columbus
Alice Katherine George ..... Youngstown
Guido Guy Germano ..... Kenmore
Gladys M. Glass ..... Sharpsburg
Sara Marian Goodman ..... Monticello. Ind.
Arthur Bennette Gorsuch ..... Wauseon
Anna Mae Blanche Gotter ..... Louisville
Sarah Merle Gray, B.A. ..... Waterville
Hannah Reiss Greenwood ..... Youngstown
Aaron Logan Griffin ..... St. Louis, Mo.
Cleona Maurie Hall ..... Westerville
Bernice Bowen Haun ..... Niles
Era Mae Haupert ..... Port Washington
Edna Mae Heller ..... Canal Winchester
Virgil Henry Hemmelskamp ..... McClure
Lucille Justine Henderson ..... Columbus
Hilda Esther Hertlein ..... Sandusky
Marcella Vera Lyle Heusch ..... St. Marys
William Henry Hildreth ..... Woodstock
William Ernest Hoare ..... Hilliards
*Virginia Hockett ..... Worthington
Ruth Alice Huber ..... Dayton
Gordon Garfield Humbert ..... Howard
Esther Martha Hunter ..... Columbus
Isabel Moling Inskeep ..... Columbus
Thelma H. Jacobs ..... Toledo
Christina Carolyn Jones ..... Columbus
Evelyn Rae Jones ..... New Lexington
Maybelle Louise Kahler ..... Plain City
Gilbert Andrew Kelley ..... New Madison
Gladys Jane Kidd ..... Black Lick
Howard Dean King ..... Sterling
Sarah Mitchell Kinney ..... Columbus
Elizabeth Lindsay Kirn ..... Hamilton
Alva Telford Kline ..... Killbuck
Anita Barbara Koenig ..... Columbus
Irene Krakoff ..... Columbus
Margaret Freda Kuechle ..... Lakewood
Edna Eleanor Kummer ..... Uhrichsville
Helen Louise Lawrence ..... Newark
*Margaret Lovisa Laycock ..... Toledo
Mary Alberta Libold ..... Kenton
Dorothy May Lintner ..... Columbus
John Talmadge Long ..... Cleveland
Virginia Louise Lotze ..... Girard
Antoinette Lowry ..... Upper Sandusky
Geneva Dinsmore Lyle ..... St. Clairsville
Marie Blanche McBride ..... Cleveland
Doris Kathryn McCoy ..... Westminster
Helen Sarah McDonald ..... Frazeysburg
Helen G. McKenzie ..... Columbus

* Two degrees.

Odessa Alberta McWilliams ..... Columbus
Helen Marie Manahan ..... Dayton
Lee Archer Marshall ..... Creston
Elizabeth Martin ..... Columbus
Gertrude La Shelle Martin ..... Lakewood
Cleo Mary Mason ..... Pickerington
Edward Masonbrink ..... Celina
Berniece Cordelia Mead ..... Napoleon
Robert Clarence Michener ..... Bethesda
Donald J. Miller ..... Bayard
Kathryn Louise Minton ..... Wapakoneta
George Smith Mitchell ..... Knoxdale, Pa.
Marion Morley ..... Geneva
Lorena Anne Morner ..... Hamilton
Owen Chandler Neill ..... Venice
Horatia Dodson Nelson ..... Columbus
Clara Lucille Norris ..... Columbus
Marion Elizabeth O'Laughlin ..... Columbus
Elizabeth Lucile Oldham ..... Columbus
Elizabeth Kathryn Overholser ..... Dayton
John Edward Oyer ..... Columbus
Lucile Patterson ..... Youngstown
Walter Smith Petry ..... Columbus
Ruth Winona Poetzinger ..... Defiance
*Mary Emily Postle ..... Columbus
Winifred Reed Powell ..... Columbus
Mabel Evans Price ..... New Straitsville
Edward Lawrence Pross ..... Chillicothe
Georgianna Kern Reiland ..... Columbus
Helen Marguerite Reuter ..... Columbus
Marguerite Barbara Rhoads ..... Brookville
Irvin Blinn Rickly ..... Pandora
Sara Ann Roach ..... Columbus
Herbert Roese ..... Groveport
Ralph Hiller Rosendale ..... Bloomdale
Isabelle Ruehrmund ..... Cardington
Charles Albert Rusler, Jr. ..... Lima
Gayle Louise Rybolt ..... Ashland
*Lillian Esther Salle ..... Ironton
Reva Saltuper ..... Elyria
Irvin Henry Sauerman ..... Columbus
Mary Kathryn Schantz ..... Columbus
Doit Robert Schick ..... Bluffton
Harriet Lois Schick ..... Columbus
Elsie Florence Schneider ..... New Philadelphia
Margaret Elsie Shelby ..... Columbus
Laura Tarita Shoemaker ..... Pickerington
Annabel Lee Sipes ..... Columbus
Helen Augusta Smith ..... Salem
Helen Erdean Smith ..... Marysville
*Gerald Burrell Snedeker ..... Columbus
Yetta Ethel Soomsky ..... Columbus
Herbert Glendon Spangler ..... Columbus
Gertrude Elizabeth Spengler ..... Piqua
Elizabeth Bell Stalker ..... Columbus
Portia Louise Steele ..... Columbus
Ceph Leroy Stephens ..... Woodsfield
Matthew Bellamy Stephens ..... East Youngstown
William Chester Still ..... Cumberland
William Sickman Stinson ..... Bowdil
Lucille Eleanor Stoll ..... Cleveland
Herbert Arthur Stoughton, B.S. (Otterbein College) ..... Westerville

* Two degrees.

Florence Frances Stroyne.....Columbus
Helen Leland Suck.....Columbus
Edith Ann Theile.....Hamilton
Margaret Tiedman.....Columbus
Jane Eloise Tilley.....Columbus
Ethelanna Tucker.....Mansfield
Samuel Glenn Vercoe.....Brooklawn, N. J.
Anna Althea Walker.....Gasport, N. Y.
Catherine Florence Walton.....Columbus
Lucille Elaine Watrous.....Willoughby
Anne Allyne Wheatley.....Lorain
Harry Sheridan Wilder.....Ashtabula
Ethel Madeline Wolfgram.....Columbus
Lester Otis Woodburn.....Wauseon
Angela Dukye Woode.....Columbus
*Marie Emma Zettler.....Columbus
Carolyn Henrietta Zindler.....Pemberville
Ruby Winifred Zipperlen.....Columbus

(One hundred and ninety-nine candidates)

BACHELOR OF LANDSCAPE ARCHITECTURE

Carl Peter Brosch.....Cleveland
Walter Louis Chambers.....Chillicothe
James Franklin Hostetter.....Canton
Frank Leland Vaughan.....Alliance
Richard Weaver, Jr.....Lakewood

(Five candidates)

* Two degrees.

COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

CIVIL ENGINEER

John Clinton Prior, B.S., 1906 (Denison University).....Columbus
Clifford Harry Springer, B.C.E., 1917.....Urbana, Ill.

(Two candidates)

ELECTRICAL ENGINEER

Leland Watts Birch, B.E.E., 1917.....Mansfield
George Dewey Clark, B.A., B.E.E., 1922.....Sharon, Pa.
Paul Griffith Edwards, B.E.E., 1924.....New York, N. Y.
Ivan C. Eppley, B.E.E., 1923.....Dayton
Edward Stanley Gunn, B.E.E., 1918.....Columbus
Elmer Leroy Hall, B.E.E., 1918.....Chevy Chase, Md.
Ward B. Kindy, B.E.E., 1916.....Palo Alto, Calif.
Hiram Russell Mason, B.E.E., 1917; M.Sc., 1928.....Terre Haute, Ind.
Walter Ernest Metzger, B.E.E., 1922.....Columbus
Glenn Eugene Park, B.E.E., 1919.....Charlotte, N. C.
Lester Champe Peterman, B.A., 1916.....New York, N. Y.
Albert Frederick Puchstein, B.E.E., 1917; M.Sc., 1919.....Columbus
Fred Homer Pumphrey, B.A., 1920; B.E.E., 1921.....New Brunswick, N. J.

(Thirteen candidates)

MECHANICAL ENGINEER

Frederick G. L. Boyer, B.A., B.Sc. in Edu., 1912.....Chicago, Ill.
Charles Howard Marion Burnham, B.M.E., 1916.....Fort Collins, Colo.
Carl Henry Heldenbrand, B.M.E., 1924.....Akron
Charles Whitaker Staacke, B.M.E., 1924.....Akron
Harold Alfred Stone, B.M.E., 1921; M.S.P.A. (Syracuse University).....Los Angeles, Calif.

* Two degrees.

(Five candidates)

Bachelor of Architecture

*Charles Merrill Barber ..... Toledo
James Henry Grady ..... Orrville
Robert Milton Heichel ..... Ashland
George Heath Jaeger ..... Elmore
William Richard King ..... Carey
Ralph Marlowe Line ..... Findlay
Clyde Otmer Ridenour ..... Columbus

(Seven candidates)

Bachelor of Architectural Engineering

*Charles Merrill Barber ..... Toledo
Frank James Dickerson, B. Arch. ..... Columbus
Bernard Frederick Gayer ..... St. Marys
William Norris Green ..... Columbus
Walter Herbert Kidd ..... Gahanna
James Wesley Kievit ..... Toledo
Howard Joseph Kirn ..... Hamilton
Robert William Kramer ..... Columbus
Howard Edgar Le Fevre ..... Ashland
William Jaegle Seamon ..... Toledo
James Fawcett Van Gorder ..... East Cleveland

(Eleven candidates)

Bachelor of Ceramic Engineering

William Vincent Blake ..... Columbus
Edmund Paul Czolgos ..... Cleveland
Probert Wood Dager ..... Columbus
Myron Mitchell Eggleston ..... Mt. Vernon
Emerson William Emrich ..... Columbus
Wilbur Franklin Gaunder ..... Newark
Joseph Wheaton Gill ..... Port Clinton
Gerald Wilson Hofstetter ..... Columbus
Ceryl Aro Hotchkiss ..... Orient
Melvin Sigvard Lund ..... Cleveland Heights
John Ethan Musselman ..... Clyde
Willard Edison Palmer ..... Newcomerstown
Donovan James Ricc ..... Dayton
James Alovsious Roslund ..... Columbus
Walter Rueckel ..... Columbus
Henry Zane Schofield ..... Zanesville
Macon Charles Trabue ..... Camp Chase
*Howard Eugene Waugh ..... Columbus

(Eighteen candidates)

Bachelor of Chemical Engineering

James Pace Alton ..... Columbus
Leo Henry Brandt ..... Troy
Marion Marcellus Crawford ..... Kenton
Harvey Gilbert Greer ..... Findlay
Lyle Kermit Herndon ..... Charleston, W. Va.
Elwood Baker Layfield ..... Mt. Vernon
Louis Henry Mapel ..... Columbus Grove
Ralph Calvin Martin ..... Marion
William James Michel ..... Columbus
Harold Leslie Parker ..... Columbus
Bradway St. John Phillips ..... Toledo
John Larimore Walsmith ..... Columbus
Ralph Herbert Wing ..... Columbus

(Thirteen candidates)

* Two degrees.

BACHELOR OF CIVIL ENGINEERING

Carl William Albrecht.....Columbus
Arliss Clark Allen.....Minerva
Orval James Baldwin.....Hillsboro
Kenneth Kirk Edgar.....Columbus
Charles Floyd Ellis.....Mt. Vernon
John Peter Ferris.....Cleveland
Amadeus Joseph Friemoth.....Ottoville
Leroy Francis Johnston.....Columbus
William Herman Klenk.....Catawba Island
Ernst C. Langbehn, Jr.....Columbus
Russell Morgan.....Mt. Vernon
Paul Eaton Pletcher.....Paulding
Sherman Sadler Price.....Columbus
Richard Nevin Ricketts.....Mansfield
Loy Luther Sammet.....Columbus
Paul Gerhardt Sammet.....Columbus
Philip Uhrig Satchell.....Wilmington
Ralph Frederick Setterlin.....Columbus
David Emery Smucker.....Bellefontaine
Harold Allen Taylor.....Farmdale
Karl Vernon Taylor.....Columbus
Edward Frank Tuta.....Youngstown
Gordon Howard Walker.....Columbus

(Twenty-three candidates)

BACHELOR OF ELECTRICAL ENGINEERING

Obed Leo Andrews (as of the Class of 1928).....St. Johns
Harry Eugene Ashmead.....Columbus
Urick Harrison Auckerman.....Ashland, Ky.
Harry Freeman Blake.....Columbus
Bruce Hallock Carter.....Zanesville
Frank Bernard Conlon.....Columbus
Ralph Kent Crooks.....Westerville
Walter John Cummings.....Columbus
Howard Ernest Elliott.....Black Lick
Edwin Leslie Foster.....Ironton
John Becker Goddard.....Fayetteville, W. Va.
Edward Alexander Griffith.....Columbus
George John Heinzelman, Jr.....Chillicothe
Edward Arthur Higgins.....Portsmouth
Murray William Hively.....Alliance
Clarence Christian Keller.....Marshallville
Russell Edge Knox.....Jamestown
Wilson Waldo Kohli.....Tiffin
Charles Vinson McBroom.....St. Marys
Donald Adam Naftzger.....Orrville
Russell Conwell Newhouse.....Ostrander
Robert Herman Pausch.....Columbus
Leo Robert Peters.....Cleveland
William Edwin Peterson.....Spring Valley
Charles Carlton Powell.....Ashland
Edgar Rosino Robinson.....Sandusky
Elwood Dwayn Shipley.....Cambridge
William Alexander Smith.....Newark
Robert Henry Spry.....Fredericktown
John Herbert Storey.....Gahanna
Donovan Albert Warstler.....Massillon
Elmer LeRoy Young.....Columbus

(Thirty-two candidates)

Bachelor of Industrial Engineering

John LeBaron Arbuckle.....Columbus
Herman Carl Borneman.....Columbus
Stanley Reuben Gibson.....Ravenna
Edward Stanton Heck.....Salem
Rudolph Michael Hudak.....Zanesville
Eugene Fred Kepke.....Cleveland
John Alexander Lane.....Washington, D. C.
Robert Frederic Muhleman.....Hannibal
Leland Austin Myers.....Lakewood
Harvey John Cornelius Oster, Jr.....Cleveland
Hillard Malcolm Patton.....Lima
Melbert G. Paul.....Washington, Pa.
Otto William Winter.....Columbus

(Thirteen candidates)

Bachelor of Mechanical Engineering

Carl Leslie Balbach.....Springfield
William Winston Baughman.....Portsmouth
Rupert Rolston Davidson.....Portsmouth
Hugh Herman Evans.....Columbus
Frank Harold Fellows.....Columbus
Dennis Leroy Gallogly.....Cambridge
Neal Fassig Gill.....Columbus
Leonard Ramon Growdon.....Chillicothe
Donald Thomas Johnstone.....Marion
Robert Cletus Kennedy.....London
Thomas Oscar Kuivinen.....Ashtabula
Robert Charles Miller.....Fremont
George Arnold Patterson.....Chesterhill
Raymond William Porter.....Mechanicsburg
Edward Harold Roush.....Huntington, W. Va.
Paul Snyder Shirley.....Springfield
Louis Silber.....Cleveland
Franklin Orven Vogelgesang.....Canton
Harold Verne Ware.....West Farmington
Ethan Henry Weckesser.....Doylestown
Franklin Davison Widner.....Toledo

(Twenty-one candidates)

Bachelor of Metallurgical Engineering

William Wesley Black.....Bellville
Willis Thornton Cramer.....Columbus
Kenneth Loyal Emmert.....Dayton
Robert Lee Hall.....Dayton
William John Jenkins.....New Castle, Pa.
Earl Sebastian Schweinfurth.....Sandusky
Frank Berndt Streine.....New Bremen
Walter Meredith Wikoff.....Columbus

(Eight candidates)

Bachelor of Engineering in Mining

Lawrence Taft Postle.....Columbus
Francis Eugene Steele.....Columbus

(Two candidates)

Bachelor of Engineering Physics

Ralph Ernest Clarridge.....Columbus
William Halstead Denton.....Toledo
William Bradford Jordan, Jr.....Savannah, Ga.
*Charles Madison Short, Jr.....Columbus

(Four candidates)

* Two degrees

BACHELOR OF SCIENCE IN APPLIED OPTICS

Edward Conrad Baxmeier ..... Pittsburgh, Pa.
Harry Ward Ewalt ..... Pittsburgh, Pa.
John Roy Gilleland ..... Mars, Pa.
Ellsworth Edwin Reese ..... Westerville
Kenneth Sylvester Rowe ..... Fostoria
John Maurice Wareham ..... Columbus
Edwin James Williams ..... Niagara Falls, N. Y.

(Seven candidates)

COLLEGE OF LAW

Dean: HERSCHEL WHITFIELD ARANT

JURIS DOCTOR

John Cooper Durfey, A.B., M.A. (Washington and Jefferson College) ..... Paulding
James Melbourne Hinton, A.B. (Municipal University of Akron) ..... Akron
Arthur Theodore Martin, A.B. (Oberlin College) ..... Oberlin
Matthew Joseph Smith, B.A. ..... Columbus

(Four candidates)

BACHELOR OF LAWS

Edward Blair Amos, B.A. ..... Columbus
Robert Edwin Bachman, B.A. ..... Columbus
Horace Worman Baggott ..... Dayton
Theodore Richmond Beckwith ..... Jefferson
Elizabeth Baltimore Bell, B.A. ..... Columbus
Joseph Nicholas Bernabei ..... Canton
Paul Leroy Birt ..... Greenville
*James Bruce Blanchard ..... Columbus
Lot Montgomery Campbell ..... Columbus
George Edward DeMar, B.A. ..... Dayton
Alexander Stanley Dombey ..... Lorain
Eustacius Anthony Durbin, B.A. ..... Danville
Howard Harold Durst ..... Dayton
Samuel Bushfield Erskine, A.B. (Ohio University) ..... Chillicothe
Fred Wynne Everett, Jr. ..... Wellston
William Kent Fenton ..... Toledo
Floyd Gibson Fowler, B.A. (Ohio Wesleyan University) ..... Marysville
Richard Lee Garnett, B.A. ..... Columbus
Paul George Gingrich, A.B. (Miami University) ..... Troy
Samuel B. Goldman, B.A. ..... Cleveland
Walter Scott Goodhew ..... Lowellville
Richard Watkins Gordon, B.A. ..... Columbus
Wallace Samuel Gourley ..... Warren
Winifred Allegra Gray ..... St. Clairsville
John Dixon Hartman, A.B. (Simpson College) ..... Fort Collins, Colo.
William Kenneth Howell, B.A. ..... Columbus
*Richard Huggard ..... Columbus
Harold Arthur James, Ph.B. (Denison University) ..... Youngstown
James Garvin Kahle, A.B. (Leland Stanford Jr. University) ..... Columbus
Thomas Philip Kearns, Jr. ..... Columbus
Isadore Kohler ..... Toledo
Kenneth Kirby Kreider ..... Newark
Emmanuel Krupp ..... Toledo
Louis Nathan Laderman ..... Toledo
Russell Elmer Lamm ..... Camden
Americus Gabe Lancione, B.A. ..... Ballaire
Richard Everett Landahl ..... Columbus
Collis Gundy Lane, B.A. (Amherst College) ..... Canal Winchester

* Two degrees

Cecil Adrian Lindsley.....Dorset
Ruth Lloyd, B.A.....Portsmouth
Morris Lubitsky.....Toledo
Fred Joseph McManus, A.B. (University of Michigan).....Toledo
Lewis Lee Marquart.....Dayton
Harold Leonard Mason, B.A. (Ohio Wesleyan University).....Utica
John Patrick Moloney, B.A.....Delaware
Charles Emerson Moul.....Columbus
Joe Hyman Nathanson.....Toledo
James William Nitschke.....Columbus
Jay Guy O'Donnell, A.B. (Wittenberg College).....Covington
Martin Ornstein.....Columbus
Augustus Garland Parker, B.Sc. in Jour.....Cincinnati
Olin L. Parrett, B.A.....Columbus
Albert Kilburn Ridout, A.B., B.O. (Asbury College).....Westerville
*Arthur Rubin.....Columbus
Richard Francis Sater, A.B. (Princeton University).....Columbus
Allan Everett Sayles.....Columbus
Robert Emmett Schumaker.....Columbus
Nathan Louis Sieman, B.A.....Warren
Alvin Spiegel.....Cleveland
Leslie Clemo Stratton.....Carrollton
David Harris Thomas.....Columbus
Max Tolpen.....Dayton
Clair Monroe Trunick, B.A.....Ironton
Peter Vacca, B.A.....Columbus
John Leonard Van Dervoort, A.B. (Wittenberg College).....Zanesville
Albert John Williams.....Youngstown
Loren Gregory Windom.....Columbus
Louis Howell Wolfe.....Columbus
Lawrence Grosvenor Worstell, A.B. (Ohio University).....Athens
John Milton Zuber.....Columbus
Alvin Abraham Zurfluh, B.A.....Lima

(Seventy-one candidates)

College of Medicine

Dean: John H. J. Upham

Doctor of Medicine

Herschel Carl Aldrich, B.A. (Ohio Wesleyan University).....Delaware
Brinton J. Allison, A.B. (Rio Grande College).....Rio Grande
Laurence Engel Anderson, B.A. (Ohio Wesleyan University).....Millersburg
Emmett Wesley Arnold, B.S. (West Virginia University).....Sutton, W. Va.
Everett Hubert Atkinson, Jr., B.Sc.....Ironton
Charles Clark Beale.....Mt. Sterling
William Fred Boukalik, B.A.....Cleveland
Audrey Louise Bowers, B.A.....Columbus
Maynard Owell Brown, B.A.....Circleville
*Aaron Simon Canowitz.....Columbus
James Lowrie Childs.....Steubenville
*Samuel Climo.....Cleveland
Clyde William Dawson, B.A. (Antioch College).....Yellow Springs
Homer George Deerhake, B.A. (Marquette University).....St. Marys
Theodore Toy Donaldson.....Logan
*Reuben Allen Eyestone.....Carey
Samuel Emory Flook, B.Sc.....North Hampton
Marion Joseph Franjac.....Fairpoint
John Leonard Frazer, B.A.....Cincinnati
Merritt Mathew Gibson, B.Sc.....New Straitsville
*Samuel J. Goldstein.....Columbus

* Two degrees

Kenneth Edward Greenwalt, B.S. (Mount Union College) ..... Canton
Dorence Orlando Hankinson ..... Galloway
*Glen Henry Heller ..... Cleveland
John McLean Karch, B.Sc. ..... Celina
Carl Julius Katz, B.S. (West Virginia University) ..... Cleveland
Edgar Marsh Kauffman, A.B. (Wittenberg College) ..... Akron
Lambert Joseph Kerschgens, B.Sc. ..... Toronto
Samuel Klatman, B.Sc. ..... Youngstown
*Wilford Clare Lacock ..... Columbus
Ray Marshall McCulloch ..... New Concord
Elson Douglas McCullough ..... New Salem
Samuel Taylor Mercer ..... DeGraff
William Hugh Miller ..... Osborn
Mark T. Morgan ..... Middletown
Mary Elizabeth Morris ..... Canton
Adonis Hugh Nihizer ..... Logan
George William Petznick, B.A. (Western Reserve University) ..... Cleveland Heights
Charles Archie Phillips, B.A. ..... Cleveland Heights
James Washington Pond ..... Van Wert
Wade Russell Portz ..... Baltic
Edmond Girard Puterbaugh, B.Sc. ..... Arcanum
Maxwell Francis Raine ..... Columbus
Benjamin Wade Rawlins, B.A. ..... Fredericktown
Carlos Delbert Rian, B.Sc. (Denison University) ..... Newark
Irville Spencer Rian, B.A. ..... Newark
Edward Roxie Rinaldi, B.A. ..... Cleveland
Lovell Wilson Rohr, B.A. ..... Columbus
Dale Edwin Roth, B.Sc. ..... Woodsfield
Clarence Nile Sanders ..... Millfield
Cyril Edward Savage, B.Sc. ..... Cleveland
Walter Charles Scheidt ..... Ohio City
James Forrest Scott ..... Pinegrove
Herbert Gregory Shepler, B.Sc. (West Virginia University) ..... New Concord
Kenneth Durward Smith ..... Marion
Lowell Cline Smith, B.A. ..... Decatur, Ind.
Robert Lee Solt, B.Sc. ..... Arlington
Clyde Mathew Speicher, B.S. (Mount Union College) ..... Bergholz
Calvin Benjamin Spencer, B.Sc. ..... Columbus
Lewis Behymer Stephan, B.A. ..... Lorain
Harwood Arthur Taylor, B.Sc. ..... Omar, W. Va.
Charles Fred Thompson, A.B. (Ohio University) ..... Berne
Herman Matthew Turk, B.Sc. ..... Cleveland
Gerald Parsch Tyler ..... Columbus
Vincent Cranston Ward, B.A. (Ohio Wesleyan University) ..... Nashville
Frances Rabb Wardwell, B.Sc. ..... Columbus
Lee Valentine Weis ..... Celina
Wendell Axline Weller, B.A. ..... Pataskala
John Joseph Wenzke, B.A. ..... Celina
Asia Harold Whitacre, A.B. (Ohio University) ..... Graysville
Hugh Carlile Winbigler, B.A. ..... Shelby

(Seventy-one candidates)

* Two degrees

College of Pharmacy

Dean: Clair Albert Dye

Bachelor of Science in Pharmacy

Gabriel Harmon Brown ..... Columbus
William Nelson Carpenter, B.Sc. (Otterbein College) ..... Sunbury
Saul Leon Cohn ..... Cleveland
Charles La Bert Davie ..... New Lexington
Vernon Webster Frederick ..... Dayton

William Davis Goldstein.....Cleveland
Joseph Gross.....Cleveland
James Joseph Hamill.....Columbus
Learny Francis Jones.....Lore City
Joseph Kerr McLaughlin.....Columbus
John Raymond Rankin.....Shadyside
James Mac Russell.....Sidney
Paul Stanly Shattuck.....Ironton
Dale William Shoupp.....Troy
Albert Charles Smith.....Monroeville
Paul Norman Stark.....Chillicothe
Ralph William Stine.....Akron
Walter Waxman.....Cleveland
Charles Leonard Williams.....Columbus
George Wise.....West Jefferson
Dale Ransom Wyker.....Mt. Vernon

(Twenty-one candidates)

College of Veterinary Medicine

Acting Dean: Oscar V. Brumley

Doctor of Veterinary Medicine

Frank Phifer Armfield.....Albermarle, N. C.
Ernest Paul Bernard.....Melvin
William Hezikiah Busic.....Westerville
Thomas Wilford Craver, B.Sc. in Bus. Adm.....Youngstown
Zadie Arno Danforth.....Anderson, Ind.
Franklin Delaware Daughtrey.....Columbus
John Paul Delaplane.....Greenville
Clyde Lo Rayne Everson.....Darlington, Ind.
Charles George Hall.....Malden, Mass.
William Arthur James.....Cortland
Clifton Latshaw.....Shelbyville, Ind.
Emmett Karl Le Dune.....Sullivan, Ind.
Henry Adrin Lidikay.....Darlington, Ind.
Robert Louis Stevenson.....Columbus
Cornelius Thibeault.....Rockport, Mass.

(Fifteen candidates)

Certificate of Graduate Nurse

Martha Therese Balthasar.....Plain City
Julia Lee Bunn.....Plain City
Ruth Dolby.....Columbus
Alleene Ellis.....Newark
Ilobelle Herbert.....Worthington
Margaret Elizabeth Hill.....Caldwell
Hazel Jones.....Convoy
Hilda M. Miller.....Lakewood
Edna Merle Moorehead.....Cambridge
Dorothy K. Pfisterer.....Bucyrus
Grace Richey.....Van Wert
May Helen Severns.....Findlay
Frances E. Spalt.....Ottawa
Cecile Luella Stahl.....Pomeroy
Gladys Ione Steenrod.....Columbus
Delia Webb.....Webbville, Ky.
Alma Young.....Plain City

(Seventeen candidates)

Certificate of Pharmaceutical Chemist

Percy Giddings (as of the Class of 1925).....Columbus